THE VETERINARY RECORD

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Prof. Koch on Tuberculosis.

The account of an interview with Prof. Koch, which we reprint from *The Times*, contains an interpretation of the great German bacteriologist's position which will scarcely convince many of his critics in this country. Two points only may be noted as illustrative of Prof. Koch's undoubtedly very ingenious methods of controversy. He points out that he "never maintained that human beings could not be infected by animals." That is quite true, but he certainly advanced the opinion, which he reiterated at the Washington Congress on Tuberculosis so recently as September last, that cases of human tuberculosis contracted from bovine sources are so rare, and so slight, as to be practically negligible. The Royal Commission on Tuberculosis was established to test that opinion, and a host of workers throughout the world pursued independent researches. The result has been a complete refutation of Koch's view, and an all but universal acceptance of the fact that tuberculous cattle are a source of grave danger to mankind.

The second point is rather entertaining. Prof. Koch informs us that "the starting point of the whole difference between his critics and himself arose from the fact that the former attached more importance to combating bovine tuberculosis than to the transmission of consumption among human beings." We do not think that the assertion is correct with regard to any of the Professor's critics, and it is certainly quite incorrect with regard to the first in the field.

The first man to publicly and deliberately dissent from Koch's startling pronouncement in 1901 was our countryman and colleague M'Fadyean—who, not long before, addressing the National Veterinary Association at Plymouth, had carefully and clearly laid down the truth that the great majority of cases of human tuberculosis originate in infection from a human source. Some, at least, of Prof. Koch's criticisms of his critics are as ill-grounded as his later conclusions upon tuberculosis have proved to be.

It is not likely that anyone, in England or elsewhere, will underestimate the dangers of tubercular infection from human sources. It is quite certain that Prof. Koch grievously underestimates the dangers of infection from cattle. Practically the whole scientific world has decided against him; and this recent interview, in which he sought to minimise the differences between himself and his opponents, tempts us to hope that he is beginning to recognise the untenability of his own position.

SOME COLIC CASES IN TOWN HORSES.

(1244 Cases.)

By Harry Lomas, M.R.C.V.S.

The horses which have provided me with these notes and figures are of the various types of vanners used in the Metropolis for general work. The work is very severe, and all have to trot with the exception of about a dozen—at least the dozen are not expected to trot, but do so.

On examining Table I, which is principally arranged for the purpose of showing the cases in each month, one is apt to attribute too much to the influence of the weather in the causation of colic. And if I were not in the position to know many facts concerning the working of the horses, I should have come to that conclusion myself. As regards any direct effect (whatever that may mean) of the weather as a cause of colic, I am not prepared to accept it as such. But, indirectly, the effect of bad weather both as to its increasing the work of the horses and the possible deterioration of provender is not to be overlooked.

In the first case it cannot be helped; but in the second I know that every possible means have been taken to prevent the issuing of damaged provender—however little damaged. Rigorous inspection is enforced, rejections are freqnent, and full value is exacted for the prices paid. But, why do we see on the above list such a consistent increase of cases in the month of October? May it not be new provender? It cannot be new provender because delivery is not accepted until late in the month, and then only for storage for use in November. The reason for the increase of cases in that month is that it is the month of hardest work.

Apart from figures, one notices in actual practice the enormous factor work is in causing, or assisting to cause, colic, for it is quite rare for me to have a case on Sunday, when almost all are resting, and those that work do so lightly

Again, the cases occur no matter whether the month is fine or wet, and are always more numerous when the work is hardest at any time of the year. For instance, April and May are usually the months of slack work, and if there are other months in the year with fewer cases, none can show so few deaths.

Is there a direct relation between hard work and deaths from twist and volvulus? I dont think there is any doubt about it.

TABLE I.—TOTAL COLIC CASES.

Periods.*	A	B	C	D	E	F	G	H	I	J	Total.
January	—	7	14	13	8	14	12	10	11	11	100
February	—	9	15	10	11	9	6	8	14	18	100
March	6	6	9	5	18	12	9	7	11	8	91
April	8	12	9	13	9	16	5	9	16	11	108
May	2	10	11	13	12	4	5	11	15	6	89
June	9	6	11	14	9	9	9	3	14	5	89
July	7	10	15	14	11	6	7	8	13	16	107
August	9	10	12	7	16	9	6	13	9	10	101
September	11	5	10	11	19	12	15	8	14	10	115
October	8	16	14	15	16	10	10	17	15	14	135
November	9	12	11	14	10	8	4	13	11	—	92
December	17	19	23	14	10	10	12	5	7	—	117
Total.	86	122	154	143	149	119	100	112	150	109	1244

* Each period is a year except A and J which are each 10 months only.

TABLE II.—COMPARING TWIST WITH VOLVULUS.

Month.	Twist.	Volvulus.
January	3	2
February	1	1
March	2	3
April	1	—
May	1	—
June	1	3
July	3	2
August	4	4
September	5	2
October	7	3
November	3	3
December	1	2
	32	25

One can see in this table that as the work is harder, which is always the case in the autumn, there is an increase in twists; and, also, there is a majority of deaths from volvulus in the second half of the year as compared with the first half, when the work is less severe. Surely this cannot be mere accident when taken over a period of ten years (practically).

The variations in the percentage of deaths in the different years (*Table III*) at first sight seem peculiar. It is due to the influence of work. In years A and B the horses are all young and unseasoned, yet they had to do the work of seasoned ones. Not by any means so many horses were purchased in the years C, D, and E as in A and B, but as they get stronger and more seasoned the percentage of deaths falls. For instance, in the year H there were large purchases, and in the following year the percentage of deaths increases. In fact, it is a perfect truth that the death rate is very largely controlled by the youth of the horses and the work exacted from them.

I shall be able to demonstrate this very clearly by Tables IV: V: VI.

TABLE III.—POST-MORTEMS.

Period.	No. of Cases.	Twist.	Volvulus.	Ruptured bowel.	Ruptured stomach.	Ruptured liver.	Intussusception	Calculus.	Enteritis	Total.	Per cent. of deaths
A	86	6	1	1	—	—	—	—	1*	9	10·5
B	122	10	3	1	3	—	1	—	—	18	14·7
C	154	3	6	—	1	1	—	—	1*	12	7·7
D	143	6	1	1	—	—	—	—	—	8	5·5
E	149	—	5	—	2	—	—	—	—	7	4·6
F	119	—	1	—	—	1	—	1	—	3	2·5
G	100	1	2	1	—	—	—	—	—	4	4·0
H	112	1	1	—	1	—	—	—	—	3	2·6
I	150	4	1	1	1	1	—	—	—	8	5·3
J	109	1	4	—	—	—	—	—	—	5	4·5
		32	25	5	8	3	1	1	2	77	

* Twist suspected: eviscerated on arrival to make post-mortem.

TABLE IV.—DEATHS AND PERIODS OF SERVICE.
(Each period of service is six months.)

Period of Service.	No. of Deaths.	Period of Service.	No. of Deaths.	Period of Service.	No. of Deaths.	Total Deaths
1st	12	6th	5	11th	2	
2nd	13	7th	7	12th	—	
3rd	15	8th	—	13th	1	
4th	7	9th	3	14th 15th	—	
5th	8	10th	2	16th	2	77

TABLE V.—EFFECT OF YOUTH ON DEATH RATE.
(Years A. B. C. D. and E. only.

Period of Service.	No. of Deaths.	Period of Service.	No. of Deaths.	Total Deaths.
1st	10	6th	4	
2nd	11	7th	5	
3rd	12	8th	—	
4th	4	9th	2	
5th	6			54

TABLE VI.—EFFECT OE AGE ON DEATH RATE
(Years F. G. H. I. and J. only).

Period of Service.	No. of Deaths.	Period of Service.	No. of Deaths.	Period of Service.	No. of Deaths.	Total Deaths
1st	2	6th	1	11th	2	
2nd	2	7th	2	12th	—	
3rd	3	8th	—	13th	1	
4th	3	9th	1	14th 15th	—	
5th	2	10th	2	16th	2	23

In these tables I have made the periods of service into half-years so as the better to arrive at the correct effect of youth, and work on the death rate.

Old horses—horses over 3½ years service—have colic, but the death rate is very low indeed as compared with those of shorter service.

TWIST OF LARGE COLON AT COMMENCEMENT AND TERMINATION OF THAT BOWEL.

A very considerable number of the twists have been in this position; in fact, of late years, the majority. Tympanitis is always associated with it.

I desire to mention that a twist at this position has a symptom I have never seen described. I refer to *blanching* of the visible mucous membranes. This blanching is so pronounced as to be quite distinctly recognisable two hours before death, and I think it is not illogical to expect it, since the case dies of hæmorrhagic enteritis—one might sometimes say hæmorrhage, having regard to the amount of blood present in the bowel.

A possible source of error lies in the fact that the conjunctivæ may be injected through irritation by peat-moss or saw-dust, but the buccal membrane exhibits it regularly, along with the clammy tongue of hæmorrhage.

Like many others I have seen cases with intermittent pain suddenly change into continuous pain, and I have no doubt that at, or about, this time twist has occurred. At this stage there is a slight injection which, for a time, persists, only to gradually disappear as the end approaches. At present I am obliged to confine this observation to twist at he above-mentioned position.

Curiously, a twist at this part of the bowel has always had a particular direction. In health the 4th portion is super-posed to the 1st; in this twist it would seem that the 4th portion passes downwards between the 1st and the parietes.

Why not the other way? I am unable to conceive any possible obstruction to the circulation if it did pass in the opposite direction.

Another point—and it may be pure coincidence—is that a case of intermittent colic becoming continuous has always in my cases been a twist on post-mortem.

Duration.—From six to ten hours. Where horses have died in the shortest times they have always done some work before or been taken ill whilst at work.

VOLVULUS.

My cases have never presented me with one of intermittent pain becoming continuous and ending in volvulus. Tympanitis is not constant.

CALCULUS.

It may seem extraordinary to some that there has only been one calculus. The fact is good testimony to the efficiency of the magnets and screening apparatus in the provender mill.

I wonder if it is generally known that in high-class provender, if a whole year be taken, it is usual to extract dust to the amount of ¼ per cent. of the gross weight of provender, or, roughly, in other words, about 5lb from a ton.

CONERNING ESERINE.

During the first five years I used Eserine very extensively and, for the most part, was very satisfied. But there were several cases which, under Eserine, changed from intermittent to continuous pain and death from twist. Not unnaturally, I think, I suspected the drug of having a share in the production of twist. I resolved, therefore, to give no more for a considerable period.

In the next five years not one single dose of it was given, and I have no hesitation in saying that I had quite as many cases behave in the same way.

LEAD POISONING AND WATER SUPPLIES.

It is a remarkable fact that so poisonous a substance as lead should be used, as a rule without ill effects, as material for water pipes, especially when it is remembered that even very small quantities, if continually admitted into the body through prolonged periods, produce symptoms of poisoning such as colour-grinders, plumbers, and makers of white and red lead suffer from. The continued use of water containing 1-20th of a grain of lead per gallon has been known to produce lead colic.

Most authorities now believe that the action of water on lead is twofold.

In the presence of dissolved oxygen many waters act upon the metal by a process known as "erosion." The lead is not dissolved, but there is noticed a blackening of the lead and later on a scale formation, which scales ultimately drop into the water as

lamellae. The compound so formed is a mixture of hydrate and carbonate of lead.

This process occurs chiefly in the case of "bright" lead, the eating away of which continuously exposes a fresh surface to be acted on. Most waters are free from this danger owing to the presence of substances that form a protective coating over the surface of the lead. Hard waters and those that contain much carbonic acid, carbonates, phosphates, and sulphates of lime and magnesium act least on lead.

But more important than the "eroding" process is the ability of certain waters to dissolve lead. Water possessing the property of "Plumbo-solvency" as it has been awkwardly named, may or may not have a high erosive power. Plumbo-solvency is in itself a danger; erosion, under ordinary conditions, is dangerous only in water capable of dissolving a relatively large amount of lead. In general, spring water does not dissolve lead, but surface water from moorland gathering grounds does. Plumbo-solvent water has always been found to give an acid reaction, and its plumbo-solvency depends on its acidity. One must look to the gathering ground for the source of the acid.

If a piece of litmus paper be pressed into moist peat it will show an acid reaction. Water draining from peat contains humic and ulmic acids which have the power of dissolving lead. Nevertheless a water supply derived in part from a peat district may be quite harmless owing to the mixing of spring water with the surface water.

Spring water, even in Moorlands, is not acid, neither has it the power which acid water has of dissolving lead. It may even in some measure have the property of neutralising the acidity of peaty water, and thereby lessening or altogether destroying its plumbo-solvency. This neutralising ability is very slight, but in some cases it is enough to render dangerous water harmless. The properties of the mixture of course depend on the relative quantities of the two waters and on their degrees of acidity and of neutralising power.

The character of moorland water commonly varies according to the weather. In drought the supply comes mainly from springs, which at other times furnish but a small proportion, and it is then usually neutral, especially if the drought is prolonged. Unfortunately the dry weather flow is seldom enough to meet the needs of consumers, and water famines would be frequent if storage reservoirs were not formed in order to make use of "storm water."

The danger from "storm water" lies less in the fragments of peat that it sweeps into reservoirs than in the acid substances that it washes out of the peat. The impervious marl or other deposit that often underlies peat prevents the downward escape of water, which is thus held by the peat and keeps it moist. During the prolonged contact of the peat with water those substances are formed which are the cause of acidity. When a heavy rain succeeds a dry period the first washings of the peat are very acid, that is relatively, for it must be remembered that the acidity or neutralising power of drinking waters is always very minute, and requires delicate tests for its detection and measurement. When peaty water is stored out of contact with peat it tends to lose some of its acidity, and, having lost it, shows no tendency to become acid again. The peat floor of some reservoirs may therefore help to preserve acidity, though it is stated to be unimportant in the conferring of it.

On the other hand, neutral rain and distilled water brought into contact with peat under conditions resembling those that occur in nature become acid and plumbo solvent. It is evident then that it is in the peat itself and nowhere else that the mischief is done.

The cause has been sought apparently with success in that group of plants to which many of the operations of nature, beneficent or other, are due —the bacteria. Peat is less rich in bacteria than cultivated, or even most uncultivated soils. Nevertheless the number is exceedingly great.

Various modes of treatment have been applied to moorland waters, with very satisfactory results on the whole. The most suitable treatment depends on the special conditions in each case. The matter is complicated by the necessity of considering the degree of hardness and of erosive power. The importance of the former is obvious when it is stated that in some districts acidity is cured by mixing the water with lime. Some treatments either give erosive power to the water or increase the danger of its obtaining such power.

Sodium carbonate solutions have been tried with success. Ordinary sand filtration with the addition of a coating of lime on the sand, with limestone below, and the subsequent introduction of a trace of sodium carbonate has been recommended.

Tests for Lead in Water.

Sulphuretted hydrogen added to the sample, slightly acidulated with acetic acid, gives a black precipitate if lead be present. The amount present can be estimated by comparing the colour produced by the natural water with that produced in an equal amount of distilled water containing a known amount of lead per gallon (or other standard quantity), when both are treated with sulphuretted hydrogen.

W. J. Young, M.R.C.V.S.

Edinburgh.

ABSTRACTS FROM FOREIGN JOURNALS.

Filariosis of the Tendons in the Horse.

The filiariosis of the tendons of the horse is produced by a nematode, the *filaria reticulata*, a complete zoological study of which has been made by Pader. The sexes are separate, and copulation takes place within the body of the host; but it is not known what becomes of the embryos, and what is the intermediary host. Drouet, a French military veterinary surgeon, who discusses the disease in *La Revue Générale*, de Leclainche, believes that mosquitos and various flies would convey infection from animal to animal.

In the peritendinous connective tissue, the parasite causes a small tumour of variable size (pea or almond), which is regular or irregular, hard, and always mobile. This nodule appears in summer, and may remain in the years following, or diminish in volume and even disappear. It is painless, and is found to be constituted by the body of the parasite enrolled upon itself and encysted in connective tissue.

Tendinous Lesions.—The suspensory ligament appears hypertrophied; upon section, it is slightly reddened in some parts, from which, when pressed, the nematodes issue in greater quantity than in the clear parts. The affection is more often situated in the anterior than the posterior limbs. In the majority of cases, lameness is not present.

The prognosis of the affection is rather difficult. Some horses, bearers of old lesions of filariosis, do excellent work with hypertrophied tendons; lameness is rare or slight, and soon disappears naturally. It is possible that the functional impairment of the suspensory which is invaded by the parasite may predispose to true strain of the tendon.

In some special localities the affection is very common. Pader has found 82 per cent. of animals in the region of Nimes affected; Drouet has found 37 per cent. in the region of the lower Rhône.

As regards treatment of the affection, it is well to combat inflammatory symptoms when these arise from it. Firing—in fine points and very deep—is recommended when the lesions are of sufficient importance to cause functional trouble. Drouet, however, terminates his account of the affection with the conclusion "We have no prophylactic or therapeutic treatment to oppose to it."—*La Bulletin Vétérinaire.*

W. R. C.

[Neumann, who classes this parasite as a spiroptera—the *spiroptera reticula*—describes it as frequently invading the flexor tendons of the foot and the walls of the collateral artery of the cannon, as well as the suspensory ligament. It has sometimes been found in other parts of the body, as the cervical ligament. Neumann advises excision of the parasitic tumours, which "leaves only a simple wound that is easily healed."—Transl.]

Royal College of Veterinary Surgeons.

EXAMINATIONS IN EDINBURGH.

At a meeting of the Board of Examiners held on December 9th to 15th inclusive, the following students of the Royal (Dick) Veterinary College passed their Final examination :—

Mr. G. T. S. Budge	Mr. R. H. Miller
H. D. Gilmore	L. A. Ramsay
G. C. Inglis	P. T. Saunders
P. T. Lindsay	G. C. Webster

The following passed their Third Examination:

Mr. J. Anderson	Mr. J. P. Hamilton
D. R. Crabb	F. H. Sanderson
W. Davies *	W. Walker
J. A. McMenamin	J. Waddell
J. Macfarlane	W. H. Wardrop

The following passed their Second Examination:

Mr. A. W. Carter	Mr. W. S. Lornie
J. N. Cooper *	W. J. E. Mackenzie
J. L. Cormack	T. A. McClintock
J. R. Grieg	W. D. Scott
J. B. Idle	

The following passed their First Examination:

Mr. L. Anderson	Mr. P. McNamee
J. Connor	D. Starkey

Marked thus * passed with 2nd Class Honours.

EXAMINATIONS IN GLASGOW.

At a meeting of the Board of Examiners held in Glasgow on December 9th for the Written, and on and between December 11th and 14th inclusive for the Oral and Practical, the following gentlemen passed their Final Examination :

Mr. Hubert Gillmor	Mr. Wm. White

The following passed their Third Examination:

Mr. Jas. J. O'Brien	Mr. Gordon McIntyre
D. Taylor	

The following passed their Second Examination:

Mr. J. Scott *	Mr. J. Gibson
W. S. Inglis	

The following passed their First Examination:

Mr. D. Keir *	Mr. P. J. Turner
J. M. Galloway	J. L. Taylor
A. S. Ferguson	

Marked thus * passed with 2nd Class Honours.

Z. B. Rutherford, M.R.C.V.S.
Secretary to the Board of Examiners acting in Scotland.

THE VETERINARY MEDICAL ASSOCIATION OF IRELAND.

(*Concluded from p. 440.*)

Mr. Watson got permission to propose another resolution, and in doing so said it had some connection with the discussion which had just taken place. He saw in that day's *Irish Times* a copy of a new Order of the Local Government Board entitled "Imported Meat Regulations." In these regulations it was indicated who was to carry them out, namely, officers of the Inland Revenue and medical officers. They did not specifically set forth that veterinary surgeons would carry them out. Inspection of meat was a thing that could only be properly done by veterinary surgeons: yet this new Order which was printed in *The Dublin Gazette* did not mention veterinary surgeons at all. He thought this was a matter for veterinary surgeons to take up, and claim their rights. In these days of meat inspection we should insist that veterinary surgeons were the only qualified men who could see that such regulations as to inspection of meat were enforced, and he considered that they should take some action in the

matter. With that object in view he had incorporated his ideas in the following resolution which he proposed.

Mr. BYRNE seconded the resolution, and said its terms should be communicated to the Royal College of Veterinary Surgeons. The College and every member of the profession in every part of the country should take more interest in these questions of Public Health. It affected them as citizens anxious for the public welfare as well as professional men anxious to secure for themselves positions, the duties of which they alone were competent to discharge. They quite rightly jeered at the inspection of meat by a Customs officer. But they should also protest vigorously against meat inspection by Medical Officers of Health, whose professional training most certainly did not fit them for this work.

The CHAIRMAN said they had heard the resolution read by which it was proposed to refer this question to the Royal College of Veterinary Surgeons. He thought it was a matter for the Parliamentary Committee, and that a similar Order had been promulgated by the Local Government Board of England. The Parliamentary Committee were looking to see if the profession had been neglected in those Orders, and why they were not mentioned and recognised. Up to the present time as far as he knew no result had followed their efforts, but if this resolution went forward to the Parliamentary Committee it would cause them to make further effort.

Mr. HEDLEY pointed out that there is a tendency in Ireland for the Local Government Board to follow too closely the procedure which is originated by the English Local Government Board. No objection could be offered to this when all the conditions in Great Britain and Ireland coincided. Such, however, is not the case in the instances now under consideration. In Ireland the proportion of professional (veterinary) officers available is higher than in Great Britain, and there does not appear any necessity to seek the aid of either laymen or members of the medical profession to fill vacancies. The competition of medical gentlemen is one which should be deprecated, it is one which the Committee elected to take charge of matters relating to the Dairy and Milkshops Order should oppose to the fullest extent that they can command. The question might be taken up with the British Medical Association, the General Medical Council (both the parent and the affiliated sections) as well as with the Royal Colleges of Physicians and Surgeons.

Besides dealing with the Dairies, Cowsheds, and Milkshops Order the same Committee might with great advantage give attention to the recent circular issued, about which Mr. Watson has made observations. It is an important matter, and one which should not be allowed to rest in its present not only indefinite verbiage but, if anything, which showed a preference for the appointment of others than veterinarians. If the Committee is inactive grievances will not be redressed, and the posts which should be given to the veterinary practitioner will fall to the medical, if not to less trained persons.

With reference to the suppression of tuberculosis, the returns of the Registrar-General show that, proportionately, Ireland is more seriously stricken than Great Britain. If this disease has to be eradicated it will not be done by medical men alone; neither will the veterinarian alone be able to stamp it out. It is only by the combined efforts of these two forces is it likely to be accomplished, and the sooner each has assigned to him his proper place the sooner will the disease pass into oblivion.

The CHAIRMAN, in putting the resolution, said it was agreed to amend Mr. Watson's proposition by the addition of the suggestion that the Committee should also see the subject matter referred to was brought before the attention of the representatives of the medical profession who were on the General Medical Council.

Mr. Watson and Mr. Byrne agreed to the addition to the resolution, and it was carried unanimously.

The CHAIRMAN read a letter from Mr. Mason with reference to the tender forms issued by the Kingstown Urban Council.

Mr. MASON said for the benefit of those gentlemen who could not hear what the President had said when reading the letter, he would like to explain that he had written to the Secretary of that Association, not to Mr. McKenny, calling his attention to the fact that on that day there would be a meeting of the Kingstown Urban Council, to which the general public would be admitted. At this meeting tenders would be submitted for twelve months supply of various things. He had brought this matter up before them on a previous occasion, but unfortunately he was not able to be present at the discussion that took place about it. He had been told that a motion had been moved by a gentleman, for whom he had the greatest respect, and the resulting discussion was of such a kind that it was thought necessary to suppress the report. The system he complained of then was still unchanged. He had brought a tender form and would read out a few of the items, "scavengers brushes, mudscoops, cart grease, dust bins, sanitary paper, veterinary attendance of horses." He asked was that the proper way for them to tender, or for them to be invited to tender to a Board. Their Council wrote to the Urban District Council, but the letter was marked "read." He attended the Kingstown Council meeting at great inconvenience and asked them to take the veterinary attendance and horse-shoeing separately also that they should give the local veterinary surgeons the appointment in turn, one every three years. They declined to do any of these things. There was nothing personal in his efforts, as he had nothing to gain or lose in the matter, not being eligible for such an appointment.

Only eight members attended the Kingstown Urban Council meeting that day, and as a protest Mr. Mason and his friends withdrew, so that they were unable to get a quorum and could not consider the contracts. He saw some of the prices sent in. Mr. Murray offered to shoe the horses at 3s. per set per month for a year. A member of the Veterinary Association, whose name he would not give, had described himself in his tender as having the highest qualifications that the profession was able to give him. He offered to shoe the horses, provide veterinary attendance, give medicine, and calk the horses in frost—all for what? He would not tell them; that member, now present, might tell them himself if he liked. (A Voice: "He will.") (Mr. Mason: I hope so.)

This was a serious matter for the profession. If they wished the public to respect them they should respect themselves. He would not say that they should not accept contracts, he had done so himself, but they ought to adopt some definite mode of action with reference to these contracts and make it binding on all the members. He brought the matter forward in the hope that something might be done by the members.

Mr. HEDLEY pointed out that discussion is taking place before they had a resolution proposed and seconded.

Mr. MASON said although taken rather suddenly he would propose the following resolution:—"That a Committee of this Association be formed to draw up a code of rules to be observed by members of this Association when tendering for contracts under Public Bodies."

Mr. PATRICK seconded the proposition, and suggested the addition of the words "and profession" after the word "Association."

Mr. HEDLEY said such a thing had been tried before and failed, because several of the members changed

their minds after signing an agreement to do certain things. The question did not concern them very much, being altogether a trade matter.

Mr. MASON said it did not matter what had been done before, he was dealing with the present time and had nothing to do with former arrangements. He wanted a code of rules which should be observed by all the members of their profession, and the formation of this Committee *ipso facto* would remedy the things he complained of.

Mr. MCKENNY said that Mr. Mason had told them that he had nothing to say to former arrangements. As Secretary he had written to Mr. Mason, and the reply he received, as far as his memory served him, was that he (Mr. Mason) preferred to retain a "free lance." He would like to see some arrangements made as suggested by Mr. Mason, but he was sure they would not last a day.

Mr. MASON said he had a good memory, and he remembered very well on the last occasion when that subject was being discussed, that he tried to speak for about twenty-five minutes, during which time Mr. McKenny interrupted him about forty-five times, and the whole ground and cause of his complaint was that he had not answered Mr. McKenny's letter. He did not answer Mr. McKenny's letter, but at the meeting he replied to it, and said he was a free lance. He was still a free lance. He found the lance was sometimes very useful as an *argumentum ad posteriorem* to some who would otherwise be sluggish.

Mr. MCKENNY believed, if it was necessary, he could produce the letter.

Mr. HOLLAND asked how was Mr. Mason going to bind others if he refused to be bound himself.

Mr. MASON said he would accept the verdict of the members.

Mr. CARR said he remembered receiving a circular letter from Mr. McKenny on the subject of these yearly contracts, stating that it came from the Council, and asking them not to tender to any Public Body for horse shoeing less than a certain amount. He told Mr. McKenny that he did not like the idea very much, but he would sign the agreement if the other members did so, and if he signed it he would stick to it. Mr. McKenny said he could not ask him to sign as Mr. Mason had refused to do so.

Mr. MASON said for whatever Mr. McKenny was reported to have said Mr. McKenny alone could be held responsible. He was absolutely certain that he was not asked to sign anything, nor did he refuse, but this was like "the flowers that bloom in the spring," it "had nothing to do with the case."

The CHAIRMAN put the resolution to the meeting and declared it lost.

Mr. MASON asked for a division.

The CHAIRMAN put the resolution again and announced the voting as two for, and fourteen against. He declared the noes had it.

Mr. MCKENNY said he had voted against the resolution because he believed it would be impossible to carry it out.

The CHAIRMAN said they were to have a paper by Mr. Healy, and the paper was on the table, but unfortunately the author was unable to be present and had written explaining his inability to attend. He would read the paper to them.

SOME DISEASES OF CATTLE.

By J. F. HEALY, M.R.C.V.S. Midleton.

Mr. Chairman and gentleman, When our good secretary put my name on his circular as reading a paper on "Some diseases of cattle" I am afraid he selected a poor essayist. What I had promised was to write a few notes on those diseases of cattle with which I came in contact in my practice. I hope you won't expect anything very elaborate, but I also hope that my few remarks will prove interesting.

The city practitioners have had things all their own way up to this, but when motor cars, electricity and steam traction are proving such a source of opposition to the good old horse, it is time for us poor country folk to get a look in. Now that the quarantining of American cattle, owing to the outbreak of foot and mouth disease, will make our home cattle more valuable, stock-owners will think it more worth their while to go to the expense of calling in professional aid, and it will be to our interest to devote more of our time to the study of cattle and their ailments.

NEUROSIS OF THE TONGUE IN YOUNG CALVES.

This disease is found in calves between the ages of three weeks to three or four months.

Symptoms. Slight salivation, followed by champing of the jaws and grinding of the teeth: on examination of the tongue areas of necrosis are found, varying in diameter from $\frac{1}{8}$ to $\frac{1}{2}$ inch, and sometimes larger. It is in my opinion due to umbilical infection, for I have never found it in any herd when proper sanitation is carried out, but it exists in badly drained and badly ventilated premises.

Treatment. I curette with an ordinary Volckman's spoon the affected area, and then paint it over with a solution of glycerine carbolic acid, boracic acid and tincture of iodine. I also give laxative medicine. I have lately read papers which state that this disease is of an actinomycotic origin, but I don't agree with this theory as actinomycosis is rarely found in calves of this age.

A FORM OF BOVINE LYMPHANGITIS.

This disease is found in two or three year old bullocks which have been kept in a straw yard during the winter months, and let out on grass during the following spring. It generally manifests itself in the months of June or July, and is found to affect the hind more often than the fore legs.

Symptoms. A corded condition of the lymphatics is found from about three inches above the hoof to five or six inches above the point of the hock. On palpation the glandular enlargements feel like small kernels buried in the skin. As a rule three or four near the hoof suppurate and then the others disappear altogether. Some authorities say, that this is a tubercular disease, but I don't believe this, as I have made post mortems on several cases and found no trace of tuberculosis. It is in my opinion due to some clay bacilli which the cattle pick up in their feet when standing in passage ways and at gates, as when waiting to be fed. They are generally amenable to treatment, which consists of poulticing, and painting the affected parts over with a mixture of archangel tar six parts, tincture of iodine two parts, and carbolic acid one part.

OCCLUSION OF THE PREPUTIAL ORIFICE.

This occurs generally in large herds of grazing store cattle.

Symptoms. The animal leaves his companions and mopes by himself, distension of the abdomen resembling ascites is seen, and on examination it is found hard and rigid

Causation. It may be due to animals jumping on one another, or to becoming caught on fences when straying. The urine permeates all the tissues and is sometimes seen oozing near the scrotal sac.

Treatment.—Urethrotomy a little below the ischial arch, and plenty of hot fomentations to the abdomen. Suppuration then sets in, and is often followed by sloughing of the skin over the abdominal muscles, which takes a long time to heal.

A Catarrh of the Ox.

The following disease is described in text books as Malignant catarrh of the ox (Gresswell) and Gangrenous coryza (Moussu and Dollar). It is of rare occurrence in this country, but I have had six or seven cases in my district.

Symptoms.—A profuse discharge from the eyes and nostrils accompanied with a fœtid smell and with diarrhœa. In advanced cases the nasal mucous membrane sometime sloughs off, and occasionally the breathing becomes abnormal. In some cases I have had to perform tracheotomy. It must be due to some climatic influence as it never occurs except in some sudden change of temperature accompanied by hard winds.

Treatment.—Steaming the head three or four times daily with Eukotes and injecting the nostrils with a solution of Boric acid and Pot. chlorate. Internal medicine, Quinine sulph. and Potassium iodide. I have also tried the inhalation of oxygen with great success, especially when pneumonic symptoms develop.

Chronic Tympanitis.

This is my *bête noir* in cattle practice. Formerly I tried nearly all the drugs in the British Pharmacopœia, but with very little result, so latterly I have resorted to rumenotomy In three cases I had the following results.

The first subject was an eight-year-old cow, she was housed near the sea shore, and I removed a stone of sand from the rumen. This resulted from the mangolds she had eaten being pitted in sand and these not being properly cleaned before being given to her.

The second case was that of a first-calf heifer, the condition was due to the ingestion of the placental membranes, which I removed from the rumen; they were about the size of a small football.

In the third case I removed a piece of an old frieze coat.

Each of the above cases recovered, and I had very little trouble with the wound caused by the operation.

"Snoring" in Cattle.

This has latterly been very prevalent in my district, and I think it is due to the introduction of the Aberdeen Angus breed, as cattle of this breed are more subject to it than others.

Generally the noise comes on suddenly, and when first seen a displacement of the larynx is observed as if it was pressed downwards by enlargement of the retro-pharyngeal glands.

I put a strong gag on and examine the enlargement. When it proves to be an abscess it sometimes bursts on palpation, and I have no further troubla. I simply give a little antiseptic electuary for a few days. But when the enlargement consists of hardened tissue I generally instruct to fatten the animal for slaughter.

Subcutaneous Hæmatoma.

I have had several cases in cattle which for want of a better name I must describe as above.

The condition is as follows. In the region of the pectoral or scapular muscles there appears suddenly a large circumscribed swelling, which resembles a superficial abscess at first sight, but on making an exploratory puncture nothing but arterial blood is drawn off—the the contents of the tumour appear to be only blood. The tumours are about the size of a bowler hat. After a week or so the character of the contents changes, it becomes darker in colour and like sanguineous pus.

If the tumour happens to be lanced, as one would do in the case of an ordinary abscess, severe hæmorrhage takes place. In one case to which I was called the steward had lanced the swelling, and on arriving I found the animal had literally bled to death.

The treatment I have adopted is to apply warm fomentations followed by a stimulating liniment, and in about a week's time to draw off the contents. It is sometimes necessary to pass a seton through the sac. Under this treatment recovery is uneventful.

Discussion.

Mr. Mason said he was particularly interested in hearing the paper, for he had experience of cases something similar to the author.

He was down in Co. Cork some time ago and came across a case just as described by the author. There was an enlargement of the glands, into which he put a troacar and canula and brought away some of the fluid. The treatment adopted was practically what had been described by the author, and he afterwards heard it was very successful. The enlargement was as big as an ordinary sized pillow.

This subject was a very important one, and any one who could throw some light on it was deserving of their best thanks.

Mr. Byrne said he was anxious to learn some details of the new operation repeatedly alluded to by Mr. Mason, for the treatment of "Snoring" in cattle. Mr. Mason said something was done with a trocar, but he refused for some mysterious reason to explain what that something was. Mr. Mason, who shared with the pugilist and dancing master, the titleof professor, had also alluded to doughty deeds of his own with a trocar in remote country districts. He (Mr. Byrne) would be glad to learn from Mr. Mason on what ground he defended his incursions into the practices of poor country practitioners who did not find it very easy to make ends meet. He (Mr. Byrne) protested most strongly against this interference by a man who was paid his daily fee by a public board for work of an entirely different character.

He had had very little experience he was glad to say of outbreaks of diphtheria in calves, as he did not live in a dairy country. He considered that the majority of the cases of what Mr. Healy described as bovine Lymphangitis were cases of tuberculosis. A very good case of the kind which occurred in the practice of Mr. Patrick had been carefully investigated, and was found to be tubercular. Such cases were rather common in his practice, and he could not agree with Mr. Healy's conclusion, as he found them very unsatisfactory.

Occlusion of the preputial orifice was not common in his experience in cattle. Urethrotomy was unavoidable in such cases, but it was an unsatisfactory operation in country practice, where the case could not be seen regularly and often.

He should be very reluctant to undertake rumenotomy in all the cases of chronic tympanites with which he had to deal. But he did not think he had such bad cases to treat as Mr. Healy had. His cases were mostly amongst animals in which gastric debility had been induced by prolonged grazing on poor, coarse grass. He found a change of pasture, and the administration of carbonate of ammonia and nux vomica continued for a considerable period were generally effective. Of course when the presence of such an indigestible substance as an Irish frieze coat was suspected it would be necessary to remove it, but as he did not know how serious an effect complete evacuation of the contents of the rumen might have on the powers of digestion of the animal, he should not like to try it.

Snoring in cattle was, in his experience, alarmingly on the increase, and it was principally due to tubercular disease. When the snoring was due to a post-pharangeal abscess, he ruptured this with his finger, the abscess rarely reformed, and the animal as a rule did well. But he quite agreed with the essayist that when the enlargement consists of hardened tissue surgical interference was rarely useful. Holding the opinion he

had long held, that such papers as Mr. Healy's were the most useful and instructive, he was glad to express his indebtedness to him, and his regret that he was unable to be present.

Mr. CARR said he was very pleased to hear the paper read, as it was a very useful one and contained useful information. With reference to the snoring in cattle, he thought a great many of these cases were tubercular, and they should be properly tested. He considered it was a very serious matter to have snoring cattle discharging matter from their mouths on to the food which other cattle were partaking of. With regard to Tympanites, sometimes this was tubercular and sometimes chronic. He had some experience in this direction, and had tried rumenotomy with successful results. He generally operated with about one-third of the contents in the rumen. He had removed all sorts of foreign matter, any amount of stones and buttons and even coins, and kept them for a long time.

Prof. CRAIG said the Association is to be congratulated in having persuaded one of their most able members to draw upon his experience in diseases of cattle. Cattle practice was becoming more and more important every day, and it was necessary for them to get all the information possible on the subject. Mr. Healy had given a most interesting and instructive report of some of the cases he had met with in his practice.

In referring to the causation of calf diphtheria, however, he had evidently fallen into error. The immediate cause of the affection was the necrosis bacillus, a facultative parasite, which could be demonstrated in the lesions. No doubt in the first instance the vitality of the animal was not infrequently lowered by some other organism or affection, as when the disease sometimes complicated white scour. The disease was a very serious one, and in the cases where the areas of necrosis were very extensive, where the gums around the teeth, the cheeks, large areas on the tongue or even pharynx were involved, the termination was usually fatal. A great deal could, and ought to be done, in the way of prevention in outbreaks.

Gangrenous coryza or malignant catarrh of cattle, a disease referred to by Mr. Healy, was one on which the larger proportion of our information came from the Continent. Want of experience had caused many people to regard it as a myth in the British Isles. It was certainly the first time he had heard of it existing in Ireland. The cause of it, as yet unknown, was probably microbic. The results of treatment obtained by the author were certainly much better than those previously reported by other writers.

The condition described under the heading of occlusion of the preputial orifice seemed to be very remarkable in its causation. It was difficult for him to exclude from his mind the suspicions of a urethral calculus. The examination of the penis of the ox at the S-shaped curve behind the scrotum was sometimes unsatisfactory because of the thickness of the skin and the underlying fat interfering with the manipulations of the operator.

Mr. Healy had been very fortunate in his treatment of chronic tympanitis in cattle, because the condition might be due to various causes, and it was exceedingly difficult to differentiate between these causes. The condition may be produced by some want of tone in the walls of the rumen, by the presence of foreign bodies such as Mr. Healy removed, but also by small nails or pieces of metal in the reticulum, by hairballs, and also by pressure upon the œsophagus of an enlarged tuberculous mediastinal lymphatic gland, probably most commonly the posterior mediastinal. Rumenotomy for removal of small nails or pieces of metal in the reticulum was not likely to be followed by good results, because it would be almost impossible to reach them from the opening in the flank. The history of the cases may be of service in diagnosis, otherwise rumenotomy in chronic tympanitis was little better than an experiment.

Mr Healy had obtained some exceptionally useful information from his post-mortem examination of the cattle affected with lymphangitis. In these cases he found no evidence of tuberculosis. Were the abscesses due to tubercle bacilli, one should have expected at least a few lesions in the neighbouring groups of lymphatic glands. One cannot always say that when one finds bacilli with acid fast reactions in a lesion that the bacilli are those of tuberculosis. Bacteriology is as yet only in its infancy. The bacteria causing very various affections are in many cases morphologically very much alike. The group of acid-fast bacteria is being gradually extended with time and painstaking investigations. The bacilli of Johne's disease have only recently been added, and it is not at all unlikely that if the acid fast bacteria which have been found are the cause of these abscesses, another independent member will have to be added to that group.

Lastly, snoring in cattle had been referred to as being produced either by actinomycotic lesions or tubercular abscesses. Occasionally polypus in the nasal chambers produced it. The tuberculin test did not differentiate between the causation of the lesions except in a negative way. Thus an animal may react to tuberculin and yet the snoring be caused by actinomycosis. Actinomycosis and tuberculosis could, and did sometimes exist in the same animal. With regard to treatment he had only one thing to say, and that was that if they required to operate on a pharyngeal abscess where they were working in the dark, they must exercise the greatest care with sharp-edged instruments.

Mr. MASON asked to be allowed to make a personal explanation, as the Chairman had allowed an attack to be made on him.

The CHAIRMAN refused permission.

Mr. HEDLEY appreciated Mr. Healy's paper because it is short, pithy, stimulated discussion, and gives much food for mental digestion. He did not propose to refer to other cases than that under the title of "Occlusion of the Preputial Orifice." Some years ago Mr. Hedley had seen cases which were described. They occurred in a limestone district, and it was suggested that the presence of lime salts in the urine had much to do with the trouble. Casting the animals and removal of the accumulations about the opening, and subsequently dressing with an oily dressing, both prevented the further accumulations and promoted rapid recovery. When anasarca is present multiple punctures of the swelling, with careful massage over the surface, should be resorted to. The animal would improve if the lymphatics and kidneys were stimulated with suitable medicaments.

Perhaps Mr. Healy had not seen in his district any cases of what is referred to in the public public press as the Cheshire Contagious Udder Disease. It is an ailment which Mr. Hedley had seen and said was not difficult of eradication if isolation of the affected animal was resorted to and strict cleanliness rigidly enforced.

Papers of this description served a very useful purpose in promoting discussion; they also showed the general public interested in all the animals of the farm that veterinarians devote attention to other animals than horses. If a veterinarian is in a district where horse practice is most popular, then he must adapt himself to the circumstances of his locality, but the profession wished it to be distinctly understood that the veterinarian of to-day is well equipped with both knowledge and instruments to adequately meet demands which may be made upon him to give attention to cases of disease and accident which may befall cattle, sheep, swine, dogs, and cats, as well as horses; and it may be quite a revelation to many persons to be made aware that veterinarians have treated and operated

upon elephants, camels, tigers, lions, and other wild animals brought into captivity. Also that the services of some veterinarians have been frequently requistioned in cases of disease in poultry, and occasionally of fishes.

Mr. DUNLOP said he had considerable experience in the treatment of cattle diseases. Chronic indigestion was often caused by cattle eating old pieces of leather or pieces of old boots which found their way to the field with the manure. Cattle were fond of eating clean linen put out to dry or bleach. He made a post-mortem of a cow which died rather suddenly and which the owner thought had been poisoned, and found a large quantity of small round stones in the stomach. The field where the cow had been grazing was very stony. On a few occasions he had performed rumenotomy very successfully, but he would not advise the operation where it could be avoided. In the case of a cow fed on distillery grains, hay, pulped turnips, etc. suffering from acute tympanitis and ready to drop, it might be absolutely necessary to remove some of the contents of the rumen by means of a small hooked spoon, or a piece of wire bent in the form of a small hook. In such a case the gases due to fermentation are generated very rapidly, and are so incorporated with the food that they cannot escape through the trocar. In an urgent case like this there is no time for an anti-ferment to take effect, and besides it would be very risky to attempt to administer medicine before some relief had been given to the distended stomach.

On one occasion he was called to see a valuable prize cow near Newtownards suffering from impaction of the rumen. The cow had been treated by the owner for a week or more, was much exhausted, and had eaten nothing during that time. The rumen was much distended, there was no perceptible air space at the upper part of the rumen, and it was rather difficult to make an impression on the contents with the tips of the fingers. He removed about half a barrowful of food with his hand and administered some medicine, and the cow made a good recovery. He merely mentioned these cases as being typical of those in which he thought an operation was justified.

In cases where cattle suffered from acute or sub-acute indigestion he often found it difficult to get owners to follow his instructions. They were inclined to pour in gruel too early, or give a small handful of hay. They were often afraid the cow would die from starvation, when it was a rest the stomach required. When he thought the cow was becoming weak and the stomach not in a fit state to receive ordinary food, he gave a few bottles of milk, and preferred to wait till the stomach recovered its tone.

With regard to abscesses in the pharynx or soft palate causing snoring, he thought they were mostly tubercular. He had opened such abscesses by means of a long seton needle, always taking the precaution to introdcce the hand previously.

The CHAIRMAN (Professor Mettam) said on behalf of the association he had much pleasure in putting the vote of thanks to the author for his paper. He would just like to refer to a few of the points.

With regard to the necrosis of the tongue in young calves, there was no doubt as to its cause. They had some specimens in the museum, and one of the best was got from Mr. Mason.

One cause of the disease was by the animal sucking an affected part, as the necrosed umbilicus. Another cause was the infection being conveyed from bucket to bucket. He knew of an outbreak that occured in a big farm, and the only explanation that could be given was that the infection was carried from one animal to another through using the same buckets. The disease was also often conveyed by one animal sucking the other.

With regard to the question of bovine lymphangitis in the specimens he examined he beiieved the disease was caused by bacteria. There were some organisms which were indistinguishable from tubercle bacilli.

With regard to the snoring in cattle, he agreed that this snoring might be connected with tuberculosis, but Mr. Healy had sent him a most admirable specimen which he had very carefully examined. It showed undoubtedly that the disease was due to actinomycosis.

With regard to the subcutaneous hæmatoma, he believed this was the result of an injury.

A vote of thanks was passed to the author.

VERTEBRAL NEOPLASMS (?) IN THE HORSE.

Mr. MCKENNY submitted the following case, but time did not allow of a discussion thereon.

On the 31st of October, at 10 o'clock p.m., I was requested to attend at the stables of a client to see an aged brown van mare, supposed to be suffering from colic. The history of the case, so far as it was given to me, is as follows.

The mare was purchased by a dealer at a fair, ten days previously, and was sold by him to my client on a week's trial. During that period it worked well, was given a day's rest on the 30th, and apparently was in good health up to the morning of the 31st October when it was sent out under a fairly heavy load, and trotted slowly for about three and a half miles, when it suddenly became lame, jerked both hind legs, as if it had "stringhalt," apparently was in great pain, as in colic, and when pressed to go fell down. It was then unyoked, and with difficulty got up and brought a few hundred yards to a stable.

Its hind quarters seemed paralysed. It lay down, and soon struggled to get up, but although it many times got up so far as standing on its fore feet, it could not move the hind legs. It passed a small quantity of hard excrement, also a small quantity of very dark coloured urine. It was allowed to remain in the stable for eight hours, and then was brought home in a float. I found the membranes highly injected, pulse large and soft, and the animal was blowing. I examined it per rectum, and found the kidneys enlarged and tender on pressure on the near psoas muscle, which was slightly atrophied: an enlargement on the under side of the body of the lumbar vertebræ. The bladder contained a small quantity of urine, which, when removed, was coffee-coloured, viscid, and of a strong odour. An external examination of the lumbar region did not reveal anything abnormal, and the resisting power of the tail, when moved, seemed normal. The animal was lying down and could not be made to stand on its hind legs. I diagnosed the case as Azoturia, accompanied with injury to the loins of old standing.

I informed the owner that I had but little hope of its recovery, but at the owner's special request treated the animal for three days and then as the mare was in much pain, and from the symptoms exhibited I considered the case hopeless: advised that never failing operation of rapidly passing through the cerebrum a small quantity of lead. This had immediately the desired effect: the animal ceased to be in pain.

Post-mortem.—Kidney enlarged and congested, the pelvis of the right kidney contained pus, bladder empty; other organs healthy.

I now submit five of the Lumbar vertebræ. In this specimen we have the five posterior lumbar vertebræ, The superior aspect gives an excellent example of the anchylosis which so often occurs in old horses in the articulations between the transverse processes of the fourth, fifth, and sixth lumbar vertebræ. On the inferior surface, however, we find a more interesting condition, viz., two large growths situated respectively:—

(1) At the juncture of the body and pedicle of the

second lumbar vertebra, extending posteriorly and being partially connected to the body of the third vertebra, but to a large degree overhanging that vertebra.

(2) A similar condition between the fourth and fifth lumbar vertebra.

These growths do not differ greatly in appearance, except that the anterior is longer than the posterior. They appear, as far as can be seen, to be composed of rather close cancellous tissue, and are partially divided by fissures taking various courses. They both exhibit posteriorly an enlarged and free bulbous extremity. As to their nomenclature, it is almost impossible to consider them as a hyperplasia of the bone, for any evidence of fracture likely to give rise to callus formation is absent. We are therefore compelled to believe that they are neoplastic in origin.

The owner was advised by a solicitor to take an action against the seller, but previous to doing so I was consulted in the matter, and I suggested that in my opinion an action could not be sustained, as the seller had sold the mare on a trial which satisfied the purchaser, and he thereon paid for her, and so the contract was fulfilled: the action was abandoned.

Mr. MASON proposed a vote of thanks to the Chairman for his conduct in the chair, but he regretted that he had not allowed him to make a personal explanation and reply to the attack that had been made on him. He gave a flat contradiction to the charge made against him, and repudiated the assertion that he acted surreptitiously in any way.

Mr. BYRNE seconded the vote of thanks, and said Mr. Mason had the remedy in his own hands with reference to what he had said about him, through the columns of the veterinary journals.

THE NORTH OF IRELAND VETERINARY MEDICAL ASSOCIATION.

The usual quarterly meeting was held in Ye Olde Castle Restaurant on Friday evening, the 11th December, 1908, at 7 p.m. Mr. J. A. Thompson, F.R.C.V.S., president, presided. The following members were present: Messrs. W. A. Potts, J. H. McCrea, James Gregg, A. M. Creighton, W. C. M. Smith, John Kernohan, W. F. McConnell, J. McClure Barry, R. W. Thompson, J. Ewing Johnston, Howard McConnell, W. Dawson, J. McLean, F. W. Emery, J. J. Ross (treasurer), and J. A. Jordan (secretary).

Visitors present were Messrs. E. H. Wyly and T. W. Smith.

The minutes of the previous meeting having been read and confirmed, were signed by the President.

Mr. T. W. SMITH, Omagh, was nominated as a member, proposed by Mr. W. C. M. Smith, and seconded by Mr. R. W. Thompson. This was passed unanimously. Ballot to take place at next meeting.

Apologies for non-attendance were received from Messrs. Russell, McKenny, Taylor, Lamont, and Hughes.

The SECRETARY read a copy of a resolution which had been passed at a meeting or the Eastern Counties V.M.S. held at Norwich on 10th November:—"That the members of the Eastern Counties V.M.S. think that the employment of unqualified assistants by members of the Royal College of Veterinary Surgeons is considered conduct disgraceful from a professional aspect."

On the motion of Mr. Johnston, seconded by Mr. Dawson, it was unanimously decided to defer discussion of this matter until next meeting.

Mr. GREGG proposed, and Mr. J. Kernohan seconded, that the Secretary be instructed to write to Mr. F. H. Sloan, M.P., conveying the thanks of the Association for the inestimable services rendered on all occasions in the House of Commons to the veterinary profession in general, and this Association in particular.

The following accounts were passed for payment:—Messrs. Aiken and Jordan's printing account, £1 1s.; postage, 11s. 10d; J. A. Thompson, £2 7s. 7d.

The TREASURER reported that £3 3s. had been forwarded to the Treasurer of the McKenny Testimonial out of the Association Funds.

A PLEA FOR THE ESTABLISHMENT OF A VETERINARY SERVICE OF HEALTH, WITH REMARKS ON THE DUTIES TO BE ASSIGNED TO SUCH.

By Mr. F. W. EMERY, F.R.C.V.S., Belfast.

Mr. President and Gentlemen,—I think we are all agreed that in Great Britain and Ireland matters pertaining to public health are dealt with in a very slipshod and haphazard manner, and it has often struck me that our present methods of procedure are both wasteful and impotent.

A nation's prosperity is indicated by the health and wealth of its people, and as it is true of the individual, that wealth without health is a mockery and a delusion, so also must it apply to our people as a whole. We may therefore honestly claim that the prosperity and welfare of a nation must depend upon the health of its people, and yet, in this twentieth century, claimed to be the most enlightened period in the world's history, we find ourselves only just awakening to the fact that we are year by year paying an enormous toll in human and animal life to the claims of disease which we know from the results of scientific research we can prevent. I claim that the time has now arrived when those responsible for the guidance of our country should confer on this great question with a view of creating a State Department of Public Health, having an able member of the Government of the day at its head and responsible to Parliament.

In the creation of such a Department our profession must seek and obtain such recognition as is our due, and it is with pride and pleasure that I claim our ability to be of the very greatest service in maintaining and safeguarding the health of our fellow countrymen, and, by protecting our animal population, contributing enormously to our national wealth. A Department of Public Health ought to be composed of two sections, a medical and a veterinary, the former to be the greater. In some matters the veterinary section to work hand in hand and in harmony with the greater branch, but on other questions, of which I shall speak later, the veterinary section must work free and untrammelled.

The duties which I would assign to this section are manifold, but none are outside the veterinary surgeon's legitimate calling, and I think you will agree with me that each subject has a distinct bearing upon the health, and prosperity of our country.

I propose dealing with the following questions in order:

1. Control with the view of lessening and ultimately eradicating contagious and infectious disease from among our domesticated animals.
2. Examination of all meats intended for the food of man, and the control of dairies and cowsheds.
3. Transit and proper marketing of animals and animal products.
4. Improvement of the breeds of animals with a view of developing those traits most remunerative to the agriculturist, and specially adapted to the various localities and their environments.
5. Control of a special scheme of horse-breeding with a view of supplying the Army with remounts.
6. Control of any scheme that may be formulated for affording veterinary aid to the animals of poor owners.

The diseases at present scheduled under the Diseases of Animals Acts in Ireland are cattle plague, foot-and-mouth disease, pleuro-pneumonia, sheep-pox, swine fever, epizootic lymphangitis, anthrax, rabies, glanders, parasitic mange, and sheep scab; to these should be added ringworm, canine distemper, influenza, or pink eye, contagious abortion, possibly joint evil, and of course tuberculosis. In the order in which I have placed them the first six do not appear to have given rise to any uneasiness owing to their possible transmission to man, in fact I have failed to find any authentic record of such transmission, or at least of any harmful effects arising therefrom, but there can be no two opinion as to the very great loss to which they have from time to time subjected agriculturists, and whilst happily at the present moment we can claim a fairly clean bill of health in so far as they are concerned, yet any re-introduction or recrudescence of these affections would paralyse stock-raising and the animal trade generally—industries which are yet the most important and beneficial possessed by Ireland.

Now, while man is comparatively speaking immune from these six first mentioned maladies, unfortunately the same cannot be said of Anthrax, Rabies, Glanders, and Scabies, of course the latter may really be dismissed with a few words, because while Dermatocoptes and Dermatophagus lodge on the skin of man, my experience leads me to believe that they rarely live for any lengthened period thereon, and so a temporary inconvenience is all that we are, as a rule, subjected to. Sarcoptes is, as a matter of fact, the most troublesome form of Scabies. It is transmissible from animal to animal, and from animal to man, and *vice versa*. Sarcoptes of animals and the human Acarus are really only distinguishable by a minute difference in size. Of our domesticated animals, the horse is the most likely to transmit scabies to man, and it is the animal most liable to become infected from man. How different are the effects of Anthrax, Rabies, and Glanders; these, as you know, are practically incurable in our patients and are the sources of great loss to our stock-owners, but their worst feature is that they are transmissible to man with deadly results. Anthrax is one of those diseases about which our present store of knowledge as to its cause is really definite, and yet what a difficulty is presented to us when we are asked to trace the origin of an outbreak. We learn that one, or perhaps two, sudden deaths have occurred, we find from microscopic examination of the blood that Anthrax bacilli are present, still, after the most elaborate and careful enquiry we often fail to connect the occurrence with a previous outbreak, or in any other way to determine the source of infection. From recent investigations we are advised to make special examination of artificial foods and manures, and we should advise the withdrawal of such foods, or the removal of animals from lands treated with such manures, as the case may be, until a thorough bacteriological examination has been conducted in connection with those possible sources of contamination, and they have been proved innocuous. Man suffers from anthrax in the form of malignant pustule; he may become inoculated while dressing the carcase of an infected animal or whilst handling the wool or hide of such. Medical science has made considerable progress in the treatment of this affection, yet it is still a case in which prevention would be far better than cure.

With glanders we are in a somewhat similar position in so far as our knowledge of the causal organism is concerned, but fortunately we are able to gauge its source with much greater accuracy, for when we find an animal suffering from this trouble we may rest assured that it has been transmitted from a previous case, either directly or indirectly, and we now know that by far the greater number of cases are due to the ingestion of the Bacillus mallei, the organism having lodged or been deposited on, and taken in with food. We are also in a position to state that the question of stamping out glanders is well within our power, and is really only a question of cost. Glanders is transmissible to man, and is fatal. It is usually the result of direct inoculation, and I see no reason why infection should not take place through the alimentary canal, as in the horse, more especially if the vitality of the subject has been lowered by debility or illness. The diagnosis of this disease in the human subject is most difficult; at times it is classified as of septic origin, and the truth may only appear on autopsy.

Rabies, as you are aware, has been eradicated from this country, but was fairly prevalent some few years ago, and from time to time a great number of our domesticated animals became infected through the bites of rabid dogs. All rabid animals are sources of great danger to mankind, as from them we are liable to become inoculated with the disease and develop that dread and awful malady hydrophia. It would be quite impossible to estimate the value and advantages accruing to the British Isles through the stamping out of this disease, and we must never forget that any relaxation on our part might lead to its re-introduction with all the horrors following in its train. It may be interesting to note in passing that rabies is one of those incurable diseases for which we have been unable to isolate the causal organism, the virus still being classified amongst the ultravisible.

Of the diseases which I have suggested ought to be scheduled "Ringworm," like Scabies, properly speaking is not a contagious or infectious disease in the same sense as swine fever or glanders, yet it is a malady which can be passed on from animal to animal and from animal to man. There are many forms of ringworm, classified according to the known peculiarities of the mould fungi. According to Dr. Leslie Roberts the term Keratomycetes is convenient, as covering all the fungi which in varying degree have the power of vegetating in the horny epidermis, breaking up its keratin and digesting it by proteolytic ferment. He further states that keratomycetes should probably be regarded not as true parasites but as saprophytes with facultative parasitic power which is not equally developed in all members of the family. Because it is spread from animal to animal and man, is disfiguring, causes depreciation in the value of infected stock, and is easily curable, it ought to be scheduled and proper regulations made for its control.

Canine distemper and influenza (pink eye) in horses are not, of course, the same disease, and I am only bracketing them because they have so many points of similarity. For instance—both are contagious, infectious and insidious in their attack, cause great prostration of the subject affected, take a definite course, are often followed by complications, and claim many victims. The principal points of difference are:—distemper usually confines itself to young dogs, in its early stages develops skin lesions of a more or less pronounced character, takes a definite course, which can be aided by good nursing but not shortened, and I think we may admit that one attack confers a certain immunity on the subject. With pink eye, if taken in its early stages, with immediate rest and good nursing we can undoubtedly considerably shorten the attack and avoid complications, it does not confine or limit its operations to horses of any particular age, and one attack renders the subject liable to its recurrence. Mr. Reeks has also shown us that a stallion though having apparently recovered from influenza may be still capable of transmitting the disease to mares at the time of copulation.

Now both affections cause much trouble and loss, and although points of similarity and divergence are manifested it seems to me that somewhat like regulations might be adopted for both with beneficial results. For

instance—considerable care should be paid to hygienic principles. The isolation and movement of affected animals should be regulated, and thorough cleansing and disinfection enforced. I am not aware of, nor have I been able to find any authentic record of, either of these maladies having given rise to illness in the human subject, in fact regarding influenza Professor Crookshank writes "Equine influenza or pink eye has been noted to be prevalent at the same time as epidemics of influenza in man, but there does not appear to be any evidence of intercommunicability or of any relation between tne two diseases."

Epizootic abortion, and joint ill, or pyæmic umbilical infection in foals are thought by some to have a distinct connection, and it seems to me to be a matter well worthy of further investigation, of course our attention is more frequently directed to the former affection occurring among herds of cattle, while it is when called in to treat foals that we mostly observe the latter. Both arise from infection, and both result in very serious loss to stock owners.

In contagious abortion the dam becomes affected either before, at the time of, or after impregnation, and the period that may elapse from infection until abortion takes place varies greatly, in any case, the fœtus is expelled at such a time or in such a condition as to practically render it unable to carry on a separate existence. It is due to a disease of the womb and membranes of the fœtus caused by germs, and these as a rule are freely discharged by an infected cow. Such an animal is a great source of danger to healthy pregnant cows, as abortion may spread directly to them or the contagium may be carried by attendants. It may also be transmitted by bulls that have served infected animals.

Being a contagious and infectious disease, and the cause of such an enormous loss to breeders, I think it ought to be included amongst the scheduled diseases, and regulations f rmulated demanding isolation of diseased animals, and prohibiting all movement from infected herds. The abortion and afterbirth should be destroyed by burning, the place where the abortion occurred should be thoroughly cleansed and disinfected, and affected animals suitably treated. Bulls which are known to have served diseased animals must be isolated and treated, and in districts in which the affection is prevalent owners should be required to wash the parts of such animals after each service.

Further investigation may give us a means of affording immunity against the disease, for cows that have suffered are more or less proof against re-infection, and if fresh stock is not introduced into an affected herd the disease appears to exhaust itself after a time.

Joint Ill is the result of infection through the pervious umbilicus, and to all intents and purposes is a preventable disease, if proper arrangements are made for foaling time. The foaling box should be thoroughly cleansed and disinfected, the bedding supplied should be perfectly clean and fresh, scrupulous cleanliness should be demanded of attendants, and the mare's genitals and hindquarters kept clean and sponged with suitable disinfectants. At birth the navel cord demands immediate attention and the adoption of such measures as will prevent the entry of the causal organism through this portal.

Any general regulations planned to control this malady can only be preventive, and should embrace the thorough destruction of affected animals, efficient cleansing and disinfection of infected premises, and advice against using the same box for foaling mares.

I have purposely withheld tuberculosis to the last, not that I have anything new to say on the subject, but because it is the one scourge of man and animal alike which calls so loudly for enlightened action, and because, thanks to Her Excellency The Countess of Aberdeen, it is a subject which of late has loomed large in the public eye, thus demanding the greater attention from us to-night. Perhaps you will permit me to say that Lady Aberdeen's action in this matter reflects the greatest credit on her goodness of heart. We all know that Her Ladyship's good deeds are innumerable, but even had they been confined to this one grand work, no praise or honour that could be conferred upon her would be too great.

Koch's brilliant researches resulting in the discovery of the causal organism of consumption laid the foundation for further and exhaustive investigation, and as the result of his labours and those of many other able workers we are now in a position to formulate schemes which give every promise of a successful issue against this deadly malady. The loss of adult life from this cause is great, and the infantile mortality is simply appalling. The loss it causes stockowners is enormous. Year by year it claims its victims from among our domesticated animals, and in view of the fact that every infected animal becomes a very real menace to the health and life of mankind, one loses oneself in sheer wonderment at the fact at the present moment we are entirely without the smallest piece of active legislative machinery with which we can commence a crusade against this deadly enemy. We are, of course, well aware of the fact that the repressive measures hitherto adopted with such signal success in relation to other animal scourges are not applicable to this disease, but it certainly does not follow that because we feel ourselves unable to do everything desired at once we should entirely give up the fight. The very intricacies of the question, and the immensity of good that would follow its eradication ought to be a sufficient incentive to bring about our best efforts.

In dealing with an animal plague and considering its prophylaxis, practically there are two considerations:—

To what extent does it affect our domesticated stock and what loss accrues thereby to breeders, rearers, and traders?

Is the malady communicable to man or in any other way harmful to his health or well-being?

In answering the first we must unfortunately admit that the disease is very prevalent, and when we consider the number of animals which actually succumb to its effects, the great loss through the seizure of tuberculous carcases, and also the enormous depreciation in the value of our stock owing to its ravages and presence, we are forced to look upon it as a very great drain to national wealth. I think we may safely say that from 10 per cent. to 12 per cent. of our dairy stock are, to a greater or lesser extent, the subjects of this disease, and about 1 per cent of other cattle. Probably from 1 per cent. to 2 per cent. of our pigs are affected, and so far as this animal is concerned it appears to be on the inerease.

As to the second consideration, we know a great nnmber of consumptive persons have been infected through the entry into their bodies of bovine tubercle bacilli, and that much of onr infan'ile mortality has been directly traceable to contaminated milk.

Very few, if any, animals are really immune to this malady, and it is on account of its widespread existence that we are so diffident about suggesting repressive legislation. It can very readily be seen that if we were successful in extirpating it from the members of one species they would be liable to re-infection from another. Yet I unhesitatingly say that the time has arrived for the adoption of active steps with a view of lessening and ultimately eradicating it from amongst our bovine population, and I venture to prophesy that when we are successful in that direction we shall have little trouble with the disease in swine.

There can be no doubt that tubercle bacilli show a very great variation in their virulence, and when taken

from certain sources, cultivated, and passed into the bodies of animals of a different species to those from which the organs were originally obtained, they comport themselves in a manner which may be differentiated from that of the bacilli taken from a prior case of disease of the same species of animal as that again infected. The bacilli after passing through the bodies of a sufficient number of like animals appear to assume a special type, and bacilli obtained from different sources also show some peculiarities as to the media on which they can be the more readily cultivated. The idea has been put forward that tuberculosis in all animals is not due to a similar organism, but it seems to me to be much more rational to believe in the unity of the causal germ, and to ascribe its variations to the influence of the soil and surroundings upon which it has grown and propagated.

At present considerable attention is being directed to the provision of sanatoria in which consumptives can be treated, and every effort is being made to schedule it as a notifiable disease. With these efforts we have every sympathy; but does it not appear to one as somewhat peculiar that while we are taking such obviously necessary steps, the one intended to be curative, and the other with a view of limiting the danger of transmission from man to man, we are at the same time allowing one of the most potent factors in the dissemination of tuberculosis to go on unchecked—I refer to the bovine disease. Perhaps you will permit me to briefly refer to a few measures which I think might be adopted without further delay. The first thing to enter one's mind is the great necessity for the absolute prohibition of the movement of visibly affected animals; these should be seized and destroyed whenever and wherever found. It is simply monstrous to think that such animals are permitted to come into contact with the healthy, in road, railway, and sea transit, and at markets, sales, and fairs. Secondly, I suggest restriction on the movement, and isolation of all cattle which, though apparently healthy, have been proved to be infected by the discovery of the bacilli in their natural discharges. Thirdly, all premises upon which disease is known to exist, or has existed, should be thoroughly cleansed and disinfected. I see no reasons why these simple measures should not be adopted and I am confident that, if followed, great good would accrue.

Of course our ultimate object must be the complete eradication of the scourge, and additional means to that end should be devised. All byres in which cattle are kept should have an efficient drainage system, ample ventilation, and plenty of light—these are essential. We now know that any owner having suitable premises and persevering in the separation of the diseased from the healthy portion of his stock, with the proper use of the tuberculin test, can, within a reasonable period, secure freedom from disease. We know, too, that if the progeny of tuberculous animals are promptly removed, isolated, and fed on pure food, they can be kept healthy. This is a very material consideration when viewed from an economic standpoint, for it enables us to continue to breed from certain diseased animals and raise a perfectly healthy stock. It admits of the continued propagation from well known strains which are really invaluable.

Now I fully appreciate the impossibility of asking that the latter mentioned measures should be made universal and compulsory, at least for some years, but I quite fail to see why owners who are willing to adopt such procedure should not receive every encouragement, and in fact some financial help. Grants might be made to assist in the construction of suitable premises, veterinary advice supplied, and the free testing of stock with tuberculin arranged for. By such means several centres of perfectly healthy cattle could be secured, and to farmers setting up a new stock this would be of the greatest value. In addition to this voluntary plan, small districts might be scheduled and compulsory methods adopted, the venue being changed when success had been attained. If the Government could be induced to take up this matter with a view of stamping out the disease, I think Ireland would be an exceptionally favourable country to give every chance to such a scheme.

Examination of Meat: Control of Cowsheds and Dairies.

Practically we are without a system of meat inspection, and in view of the fact that we pride ourselves upon being in advance of other European countries in most things, it is really surprising how very far we are behind them, and even our own Colonies, in this all important matter. It would appear that the average Britisher does not trouble himself about what he is fed upon so long as he is fed at all, and strange as it may sound, it still seems to be necessary to educate him up to the fact that by his gross carelessness in this connection he is being continuously exposed to the gravest dangers.

The proper inspection of meat really resolves itself into a search for the lesions of disease in the slaughtered animal, and to become an efficient inspector a good knowledge of comparative anatomy, physiology, and comparative pathology is essential. The veterinarian is the only person who can claim to be qualified for this work. This has long since been recognised on the Continent of Europe and elsewhere, and I claim that the British veterinarian is in respect of both general and professional education in no way behind his *confrère* in veterinary science in any other country; therefore, as elsewhere, he ought to be entrusted with the duty. In some few enlightened centres veterinary surgeons have been appointed to take charge of the meat inspection, but in the great majority of towns the work is allowed to go by default, and, in any case, to be of real service an universal and uniform system must be adopted. This could only be carried out by such a service as I suggest, and in the creation of such it should be definitely stated what conditions ought to be accepted as constituting the unfitness of meat for human consumption. By formulating definite regulations uniformity could be secured. In the drafting of these regulations a board of experts, mostly composed of medical men, should be appointed and entrusted with the task of drawing up a table setting forth the various conditions which, if found, must be considered as rendering a carcase wholly or partly unfit for the food of man; then the recognition of those conditions must be the duty of the veterinarian solely, as from his knowledge and training he is pre-eminently fitted for the task. By the adoption of an uniform system for the whole country evasion and fraud could be prevented, and stockowners, breeders, and traders would be in a position to materially assist by endeavouring to produce stock free from the conditions enumerated. In the formulation of regulations governing meat inspection, great care must be taken to ensure that foreign products are dealt with in a similar manner, at least, to our own. It is just possible that some of the regulations made for the control of animal diseases have worked in favour of our foreign competitors.

A special meeting of this Association was held recently to consider the Dairies and Cowsheds Order, and so I feel myself free to pass this subject with but few remarks. That the veterinary surgeon is the proper person to carry out duties in connection with dairies and cowsheds ought not to require any laboured arguments to convince even the most ignorant person, and yet we find local authorities so devoid of reason and so careless in the spending of the ratepayers money as to insist on appointing lay and medical men for such work. The duties of the office are of the most important nature, in-

tended as they are to prevent the transmission of deadly diseases from animal to man, yet we find our local representatives, and after them the heads of a great Government Department (owing to lack of power) agreeing to the appointment of men for these onerous and special duties, who are, and ever will be, ignorant of, and useless for, the work they are expected to control. Economy cannot be secured without regard to efficiency, and the mere fact of spending money in pretending to give effect to legislation is not only foolish but misleading. It is a method which is apt to lull the public mind into a false sense of security, leading to the belief that protection is being afforded when there is really no protection.

Transit and Proper Marketing of Animals and Animal Products.

This is another duty which dovetails so closely into the matters previously considered that of a necessity its control should be in the hands of the service which deals with them. The thorough supervision of the movement and marketing of animals is really an essential to the proper control of contagious and infectious disease, next to those special regulations adopted for specific diseases. No action of the executive can have so good an effect on the control of disease as the keeping of an ever watchful eye on animal movements, and in suggesting the extension of that watchfulness to the transit and marketing of animal products I am but advising the adoption of a means whereby the inspection of the food of man may be the more thoroughly carried out. The better this work is performed, the better it will be for all those concerned in all branches of this trade, because British products would reach a degree of excellence at least equal to those of any other country. At the present time the opposite obtains, and buyers are practically forced into ignoring home produce and selecting foreign, the latter being the more dependable article. Much of the treatment meted out to animals in transit at the present time is a crying shame to humanity, and the manner in which animal products are dealt with may be observed by any of you. In connection with the North of Ireland pork traffic, the way in which it is often handled is simply revolting.

Improvement of the Breeds of Animals with a View of Developing those Traits most Remunerative to the Agriculturist, and Specially Adapted to the Various Localities and their Environments.

I have now reached a very thorny question. Having had the advantage of a very varied experience in stock raising I am forced to the conclusion that no one system can be devised which can really be made applicable to a whole country and bring about equal and salutary advantages to all. Throughout Great Britain we find a great number of very fine examples of what can be done in various centres by the adoption of practical methods directed towards the improvement of local stock. The first principles to be followed are the proper treatment of animals, and the careful selection of those intended for breeding purposes. These should be as far as possible free from hereditary disease or defects, and specially chosen on account of their near approach to whatever ideas we may have set up, and it is of the greatest importance to see that both male and female possess the nearest possible characteristics to those degrees of excellence which we wish to produce.

We must ever remember Nature's laws—that the fittest survive, and that like begets like. By working with, and not against, these dicta, we may succeed in our desires, but I would warn you against expecting immediately gratifying results, for the production of some of our most famed strains has been the work of generations. Now while the process of selection has been proved to be the mainstay in the production of an improved stock, it nevertheless becomes desirable that from time to time new blood should be introduced, and here we arrive at one of our most difficult problems and one over which most men have stumbled, in fact, very few have the gift of selecting exactly the right class of outside animal to introduce into a stock which is being gradually improved by the methods of natural selection. It is not sufficient to ascertain that the animal is healthy, free from hereditary taint, and presents those other qualities such as conformation, fat or milk producing tendencies and such like, that we may desire—these are essential—but it is none the less necessary to trace the ancestry of such animals, and ascertain if through a long chain of foreparents those qualities have been produced and maintained. It is also desirable that the selected animal's previous environments should have been as nearly approaching as possible to those to which we are about to subject it.

In many parts of Ireland we had certain breeds of animals which had evidently been the result of a judicious process of selection, and while some of them were far from perfect, they nevertheless were in such a state of evolution as to have admitted of the ultimate production of specialised and highly valuable strains. As instances of such, I direct your attention to the Connemara and Cushendall ponies, the old Irish "general utility" horse, the Kerry cow and the old Irish milch cow. Now these, one and all, should have been retained and graded up, and not crossed with undesirables and obliterated. Perhaps it may not yet be too late to obtain suitable examples of these classes and build up from them a fresh stock suitable to the counties hitherto famed for their production.

Of course many parts of Ireland are suitable for the breeding and rearing of the very best British strains of stock. Where such is the case, we should undoubtedly enter into a wholesome competition in their production, for they are in such demand and so profitable. But in districts unsuited to them it should be our aim and object to evolve a special and useful stock, in fact the very best that our surroundings will admit of. I know of no person who ought to be in a better position to advise on this complex question than the local veterinary surgeon.

Control of a Special Scheme of Horse-breeding with a View of Supplying the Army with Remounts.

For some time past the question of the inauguration of some useful scheme whereby the Army could be supplied with a sufficient number of suitable remounts has been engaging the attention of the authorities, and it is more than probable that an attempt will soon be made to establish a definite system. Such work would be so intimately connected with the other duties which I have defined that from the point of view of efficiency and economy it ought to be entrusted to such a service as I have indicated.

I would suggest remount depôts at which selected sires should be kept, the service of such to be given to approved mares at a reduced fee, farmers ought then to be granted a bonus for retaining such mares for the breeding of suitable animals, the War Office to hold an option over all such and their progeny until they reach a certain age when, if not required for Army purposes, the owners might be allowed to dispose of them in the most advantageous market. An Army that could depend upon a sufficient number of suitable healthy remounts would have half its battles won.

Control of any Scheme that may be Foreulated for affording Veterinary Aid to the Animals of Poor Owners.

I do not think that this Society has discussed the question of the establishment of a veterinary dispensary

system, but, if I remember aright, the Veterinary Medical Association of Ireland had the matter under serious consideration. However, I am not going to trouble you with any arguments for or against the scheme. You are no doubt aware that the idea is being given a trial in the County Wexford, and if it proves successful there, and a general application is made for the extension of its benefits to other parts, I have no doubt the request will be acceded to. Should such occur it will become our duty to do our best to make a success of it, and at the same time safeguard our own interests.

Having briefly, and I must admit most inadequately, referred to the duties which ought to be entrusted to the service, perhaps you will allow me to briefly outline a scheme which might very fairly form a foundation for it.

It would of course be essential to have a central body of control acting independently in order to secure a just and uniform application of all duties and regulations. This body should consist of a Chief Veterinary Officer, an Assistant, and a sufficient number of travelling Veterinary Inspectors. Then each County should have its own Chief Veterinary Inspector, under whose direct control all district Veterinary Surgeons should act; Counties should be divided into suitable sized districts each having a district Inspector, who should not be a whole time officer but a general practitioner. Now I wish to be distinctly understood, that I believe there would be many and varied duties arising under such a service which it would neither be desirable nor essential to employ a veterinary surgeon to perform, but I must at the same time emphatically claim that every branch of the work should be under his direct control and supervision.

In creating this service, I would claim every public official, either acting directly or indirectly in connection with the discharge of such duties as I have enumerated. On a rough estimate, I calculate that we are at present paying fully £50,000 per annum for such services, and we are not by any means securing efficiency; by co-ordination, and re-organizations we can secure, for all practical purposes, the section of the department which I suggest ought to be created and with but very little increased expenditure. The present methods of isolated action tend to overlapping, inefficiency, and waste. The supplanting of the divided efforts by an uniform system would prevent loss of money, and bring enormous returns to agriculturists—a deserving body who have been neglected too long.

We are sometimes asked what steps the Royal College of Veterinary Surgeons has taken to ensure that its graduates are fitted for the onerous and important duties which we claim should be granted them. Replying to this I would say that the advance of the veterinary profession during the past fifty years has been phenomenal, and equal to that of any other scientific body in the world. Our graduates have had to submit to a long course of study, covering four years, have been taught by a band of brilliant and devoted men, and have been subjected to periodical tests of as searching a nature as it has been possible to devise in order to ensure efficiency. In conclusion I cannot do better than quote from Sir John M'Fadyean, President of the R.C.V.S. and Principal and Dean of the Royal Veterinary College, London, who in a recent speech said "that now and always the aim of the Royal College of Veterinary Surgeons would be to fit its members that they should discharge their duties not merely to their own advantage but to the public interest.

Considerable discussion took place concerning the present position of veterinary surgeons in matters pertaining to Public Health, in which most of the members present engaged.

As the paper was so full of interest it was unanimously decided to postpone the further discussion of it until next general meeting.

Mr. J. J. Ross proposed, Mr. J. Kernoham seconded, and it was resolved:—"That it having come to the knowledge of this Association that counsel acting for the Belfast Corporation in a recent trial has advised the Markets Committee that members of the Royal College of Veterinary Surgeons have no proper *locus standi* as public health officers, and to give them the proper standing they should hold the certificate of some Sanitary Institute, we feel that it is our duty to our profession to strongly protest against such a blunder, seeing that we receive a special medical training at College which enables us to act as experts in such matters as pertain to the fitness or otherwise of flesh for human consumption, whereas sanitary institutes exist only for the purpose of giving a certain amount of knowledge to laymen and granting a certificate which is very much inferior to that of the diploma of the Royal College of Veterinary Surgeons; and, further, that we consider it an insult for learned counsel to suggest that we should sit for an examination so simple as that of the Royal Sanitary Institute."

A letter bearing upon the same subject was read by Mr. J. Ewing Johnston from the Principal of the Royal Veterinary College of Ireland (Mr. A. E. Mettam, B.Sc., M.R.C.V.S.), who stated that he considered the proper person to inspect meat and give an opinion upon it was a qualified veterinary surgeon. He added—"Any certificate given by the Sanitary Institute cannot be equivalent to the diploma of the Royal College, nor do I suppose is such an idea contemplated by the Institute for a moment. It is a qualification I believe required from laymen that they have some knowledge of meat inspection, and that they have studied the subject for some few months under someone able to instruct them, but no one I think with a grain of common-sense would seriously maintain for a moment that a holder of the certificate was as capable of passing judgment upon a pathological condition as a veterinary surgeon.

Mr. McCrea proposed a vote of thanks to the essayist and President, which was seconded by Mr. Potts and passed by acclamation.

Refreshments having been partaken of, the proceedings terminated.

J. A. Jordan, *Hon. Sec.*

HUMAN AND ANIMAL TUBERCULOSIS.

The Problem of Communication.

The Times has recently called attention, both in leading articles and by the publication of correspondence, to the grave issues raised by the differences between Professor Koch, on the one hand, and the British Royal Commission on the other, with regard to the methods by which the bacillus of tubercle is chiefly communicated to mankind; but these issues are so grave, and the correct solution of the problems involved is so important in relation to public health, that it may be permissible to re-examine the position in somewhat greater detail than has hitherto been practicable.

It has been known for many years that many of the lower animals share with man his liability to tuberculosis; and the general characters of the disease are essentially the same in whatever animal they are displayed. It was also shown, at a comparatively early period of bacteriological research, that some of the characters of disease-producing micro-organisms, and especially the degree of their virulence, are largely susceptible of modification by the conditions of their environment. By passing them through different animals, and by other means, it was found possible to

increase or to diminish the potency of certain strains to a very remarkable degree; a susceptibility of variation entirely harmonious with that of higher members of the vegetable kingdom, in which the character of the alkaloids or other products of the growth of the plant is largely dependant upon conditions of soil, of temperature, and of surroundings. It was not supposed, however, that the ordinary modifications of bacilli by environment were radical in their nature, or such as to prevent the gradual return of original characters when the original environment was restored. It was commonly assumed, to say the least, that tuberculosis was tuberculosis, in whatever animal it might be developed, and that the characters and qualities of the underlying bacilli were essentially the same in all cases. Under the influence of this belief much attention was paid to the occurrence of the disease in animals, and especially in animals furnishing flesh or milk for the food of mankind; and the discovery of abundant tuberculosis in cows and pigs was regarded as pointing to serious sources of danger. It was abundantly shown that the consumption of tuberculous flesh and milk would produce tuberculosis in some of the lower animals, and it was regarded as certain that similar effects were to be expected in the case of man.

Such was the position of the question in the year 1901, when a congress on tuberculosis assembled in London, and when Professor Koch startled his audience by suggesting the existence of an essential difference between human and bovine tuberculosis. He said:—

"Even in my first circumstantial publication on the etiology of tuberculosis I expressed myself regarding the identity of human tubercle and bovine tubercle with reserve. Proved facts which would have enabled me sharply to distinguish these two forms of the disease were not then at my disposal, but sure proofs of their absolute identity were equally undiscoverable, and I therefore had to leave this question undecided. Not till the complaisance of the Ministry of Agriculture enabled me to experiment on cattle, the only animals really suitable for these investigations, did I arrive at absolutely conclusive results."

The Professor continued:— . . . . . "Considering all these facts, I feel justified in maintaining that human tuberculosis differs from bovine, and cannot be transmitted to cattle. How is it with the susceptibility of man to bovine tuberculosis? This question is far more important to us than that of the susceptibility of cattle to human tuberculosis, highly important as that is, too."

The Royal Commission.

A Royal Commission was almost immediately appointed for the further investigation of the questions involved. This Commission, which was first presided over by the late Sir Michael Foster, and, after his decease, by Sir William Power, presented an interim report in 1904, in which the validity of Professor Koch's conclusions was absolutely denied, and which has since been followed by a report in greater detail, and by the publication of several massive volumes of evidence and of experimental detail.

In their first (interim) report, the Commissioners wrote:—

"The first lines of inquiry upon which we entered may be stated as follows:—What are the effects produced by introducing into the body of the bovine animal (calf, heifer, cow), either through the alimentary canal as food or directly into the tissues by subcutaneous or other injection, tuberculous material of human origin—*i.e.*, material containing living tubercle bacilli obtained from various cases of tuberculous disease in human beings—and how far do these effects resemble or differ from the effects produced by introducing into the bovine animal, under conditions as similar as possible, tuberculous matter of bovine origin—*i.e.*, material containing living tubercle bacilli obtained from cases of tuberculous disease in the cow, calf, or ox?

We have up to the present made use, in the above inquiry, of more than 20 different "strains" of tuberculous material of human origin—that is to say, of material taken from more than 20 cases of tuberculous disease in human beings, including sputa from phthisical patients and the diseased parts of the lungs in primary tuberculosis, mesenteric glands in primary abdominal tuberculosis, tuberculous bronchial and cervical glands, and tuberculous joints. We have compared the effects produced by these with the effects produced by several different strains of tuberculous material of bovine origin.

In the case of seven of the above strains of human origin, the introduction of the human tuberculous material into cattle gave rise at once to acute tuberculosis, with the development of widespread disease in various organs of the body, such as the lungs, spleen, liver, lymphatic glands, etc. In some instances the disease was of remarkable severity. In the case of the remaining strains, the bovine animal into which the tuberculous material was first introduced was affected to a less extent.

We have very carefully compared the disease set up in the bovine animal by material of human origin, with that set up in the bovine animal by material of bovine origin; and, so far, we have found the one, both in its broad general features and in its finer histological details, to be identical with the other."

The conclusions thus stated may be said, generally speaking, to have been confirmed in all particulars by the full report, in which, however, the differences existing between the different strains of human material were explained with considerable fulness, and with complete acceptance of the general idea that the virulence of the bacillus may be modified by the conditions of its growth or by the peculiarities of its host.

The Commissioners declare in their second report that:—

"There can be no doubt that, in a certain number of cases, the tuberculosis occurring in the human subject, especially in children, is the direct result of the introduction into the human body of the bacillus of bovine tuberculosis, and there also can be no doubt that, in the majority at least of these cases, the bacillus is introduced through cow's milk. Cow's milk containing bovine tubercle bacilli is clearly a cause of tuberculosis and of fatal tuberculosis in man."

Errors of Professor Koch.

Such was the condition of the question, and such the nature of the evidence bearing upon it, when, at the Congress held at Washington in September last, Prof. Koch practically reasserted a position of which it may be fairly said that a large amount of careful research has rendered it untenable. He laid down certain conditions of experimentation as being essential to the formation of trustworthy conclusions, and said that the experiments of the British Commission had "failed in several respects" to fulfil those conditions; but he did not attempt, except in relation to one case, even to suggest, and still less to show, the nature or direction of the supposed failure, and he did not notice the prompt reply of Prof. Sims Woodhead to the effect that the conditions had, as a matter of fact, been strictly observed. He passed over without notice the statement of the Commission that in seven out of 20 strains of human bacilli the introduction of the material into cattle "gave rise at once to acute tuberculosis with the development of wide-spread disease," and fastened upon the cases in which the animals were "affected to a less extent." He selected one of these in which, he said, "there appeared to be a positive result of the feeding experiment," and dismissed it as being probably due to "an experimental

error having slipped in." The cow had been fed with the sputum of a tuberculous patient; and the source of error which Prof. Koch thought "probable" was that this sputum had contained bovine bacilli derived from milk or butter which the patient had consumed as food. He ignored the larger amount of positive evidence brought forward by the Commission to show that during long residence in the human body a bacillus, originally of bovine origin, might experience such a modification of its characters as to be indistinguishable from one originally of human origin, a conclusion which, it need hardly be said, deprives of all value what the Professor declared at Washington to be "the gist of the matter"—namely, that "in no case of (human) pulmonary tuberculosis has the tubercle bacillus of the bovine type been definitely demonstrated." If the tendency of the human environment be to modify the bacillus in the direction of the human "type," it is manifest that, in the human lungs, the persistence of the "bovine" type is hardly to be looked for.

When Prof. Koch leaves the domain of bacteriology for that of practical medicine, his errors become flagrant. It has been abundantly proved that tuberculous disease produced by food is not, as a rule, first developed in the intestines, but in the abdominal glands, and that it passes readily to the lungs, so that at most only a portion of existing lung disease should be attributed to the inhalation of bacilli; and it has also been proved that a large proportion of human tuberculosis, especially in children, is of alimentary origin. *The Times* has already called attention to the inaccuracy, as far as England and Wales are concerned, of the statement that 11-12ths of the human tuberculosis mortality are due to pulmonary disease, and has shown the correct proportion to be about 70 per cent. As a matter of fact, there is no evidence with regard to the proportion of disease which commences in the lungs. Prof. Koch in 1901 spoke of having administered tubercle bacilli to cattle by inhalation, and said that "all" the cattle on which he experimented displayed "the severest tuberculous disorders of the internal organs" in "about a week." It seems incredible that such a result could have been produced within the time mentioned by inhalation alone; and, if other methods of administration were combined with it, the evidence, as regards inhalation, ceases to be of value. The high probability is that a large proportion of human tubercular disease is originally derived from food. In children such disease frequently produces fatal results by its action on the abdominal glands; in adults, in whom the glands are perhaps less vulnerable, the patient survives for the bacilli to reach the lungs and to give rise to the ordinary form of pulmonary tuberculosis.

Dangers of Tuberculous Milk.

On a review of all the circumstances, it manifestly is not justifiable, in the present state of knowledge, to permit attention to be diverted from the dangers attendant upon the use of tuberculous milk and flesh, and especially upon the former. The extent and nature of these dangers may to some extent be gathered from a report by Dr. Reginald Farrar just published by the Local Government Board, on the Sanitary circumstances and administration of the Whitby rural district, more particularly as regards those portions of it which are resorted to by summer visitors. Dr. Farrar says:—

"The condition of farmsteads in this district is, in general, very bad. I visited many, and, in the larger majority of instances, I found the fold-yards ill-drained and filthy, and the cowsheds dark, dirty, ill-ventilated, and generally of insufficient capacity for the number of cattle they contained. Limewashing is almost universally neglected, and the rafters are, as a rule, thickly covered with cobwebs. Milking is carried out under uncleanly conditions, no attempt, as a rule, being made to cleanse the udders of the cows beyond a hasty rub with a wisp of hay, still less to induce the milkmen to wash their hands. Most farmers trust to straining through a metal sieve to remove the grosser particles of dirt from the milk. In many cases the dairies are freely open to the inroad of dust and flies. On one occasion I witnessed the milking on a farm on which 13 milch cows are kept, and from which a large quantity of milk is sold daily into Middlesbrough. The whole of the conditions under which milking was carried on were extremely uncleanly. One of the cows, which was extremely emaciated, feverish, and suffering from dyspnœa, appeared to be in a condition of advanced tuberculosis. I was informed that her milk was not mixed with the rest, but "stripped" into the milk-pail, and given to the pigs. The case afforded a good illustration of the means by which tuberculosis may be spread among cattle, for the presence of such an animal among other cows would obviously foster, particularly in a dirty and ill-ventilated cowshed, as this was, the dissemination of this disease. Attention may be drawn to the fact that milk not considered fit for human use, and which was almost certainly tuberculous, was given as a matter of course to pigs, animals known to be in a high degree susceptible to tuberculosis; this custom appears to be prevalent among farmers who harbour diseased animals. A dirty trough used for making pig-meal was habitually kept in the dairy, and the open loft above the dairy was littered with rubbish thickly coated in dust."

Assuming the Royal Commission to be justified in conclusions which certainly appear to be unassailable, Dr. Farrar's report throws a flood of light upon the dangers to which the patrons of "health resorts" may unwittingly expose themselves."—*The Times.*

The Local Use of Epsom Salts in the Primary Dressing of Burns and Scalds.

In the October number of the *International Journal of Surgery* is published a paper by Dr. M. N. Stowe, of Jesup, Georgia, on the local use of magnesium sulphate as as first dressing for burns and scalds.

The paper was read at the thirteenth annual meeting of the Association of Surgeons of the Southern Railway at Birmingham, Alabama. He recommends the employment of magnesium sulphate because it gives instant relief, and the inflammatory reaction is much reduced, while there is no risk of poisonous effects from absorption. Epsom salts are nearly always available, and the dressing is very inexpensive, and it is also easily removed. In many cases no further dressing is required, but even when it is thought desirable to employ any other form of dressing later the magnesium sulphate is valuable as a primary dressing. Dr. Stowe uses the salts as follows: Where the burnt part can be immersed a saturated solution of the salts should be used, and the part should be kept in it until no pain is felt on withdrawal. We may mention that water at 62 F. dissolves more than its own weight of magnesium sulphate.

If it is not convenient to use a solution, the dry salts may be applied and covered with a wet cloth; or a thick paste may be made and placed on the affected part, such as the eyes or nose. The method is simple, and it appears to be worthy of trial.—*The Lancet.*

Comparative Summary of Returns—Parasitic Mange, in Ireland.

	1908	1907	1906	1905
Outbreaks in December	2	5	6	6
Twelve months	40	77	85	169

DISEASES OF ANIMALS ACTS 1894 TO 1903. SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Rabies. Cases Confirmed.		Sheep Scab.	Swine Fever.	
	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Dogs.	Other	Out-breaks	Out-breaks.	Slaughtered *
GT. BRITAIN. Week ended Jan. 2	26	43			11	42			27	34	188
Corresponding week in 1908 ..	24	30			11	27			54	49	181
Corresponding week in 1907 ..	14	21			9	21			27	45	218
Corresponding week in 1906 ..	17	19			23	37			20	19	60
Board of Agriculture and Fisheries, Jan. 5, 1909.											
IRELAND. Week ended Dec. 26	1	1	..	..	..	..	..	..	20	..	34
Corresponding Week in 1907 ..	..	..	..	..	..	..	..	..	30	5	10
Corresponding Week in 1906 ..	..	..	..	..	..	..	..	..	9	..	..
Corresponding Week in 1905 ..	..	..	..	..	1	6	..	..	20	..	..
Total for 52 weeks, 1908	8	11	..	..	..	..	..	..	384	159	3625
Corresponding period in 1907 ..	3	5	..	..	6	11	..	..	326	161	2789
Corresponding period in 1906 ..	4	8	..	..	8	16	..	..	251	95	1103
Corresponding period in 1905 ..	4	6	..	..	31	107	..	..	339	137	1416

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 30, 1908

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

HUMAN AND ANIMAL TUBERCULOSIS.

PROFESSOR KOCH'S VIEWS.

(From The Times Berlin Correspondent.)

His Excellency Professor Robert Koch has been good enough to make some remarks to me in response to the article on the above subject in *The Times* of Monday, December 28th, although as a general rule he considers it undesirable to discuss such matters in the daily Press, particularly when—as in the present instance—experts themselves are not quite in agreement. He considers, however, that the differences still unsolved between his critics in the Royal Commission and himself have been greatly reduced by further examination, and are now very slight. The main points at issue are, first, whether there are two distinct types of tuberculosis, or in other words whether there is a difference between bovine and human tuberculosis. The Royal Commission has, he says, abandoned its contention that there was only one type, and at the Washington Congress nearly all those present were agreed as to the existence of two types. The second point at issue is the frequency with which human beings are infected by bovine tuberculosis. Professor Koch never maintained that human beings could not be infected by animals. All he contended was that bovine infection was a less frequent source of the disease than human infection, and less far-reaching in its evil effects. Dr. Woodhead had maintained that bovine tuberculosis was a frequent source of infection, a point upon which Professor Koch could not agree with him. Professor Koch suggested that the best way of solving the difference would be for all those concerned in the investigation to continue their experiments for three years, and to submit the results to the next tuberculosis congress. Professor Koch considers it, however, essential that those investigations should be conducted on sound scientific lines.

In Professor Koch's opinion the starting point of the whole difference between his critics and himself arose from the fact that the former attached more importance to combating bovine tuberculosis than to the transmission of consumption among human beings. In his opinion that was quite mistaken, as the human consumptive patient is by far the most frequent as well as the most dangerous source of infection. The disease derived from animal sources, as in the case of children, is either not dangerous at all to those who come in contact with the victims, or only to a slight degree. Prof. Fibiger, of Copenhagen, declared that every 18th child laid on his dissecting table showed signs of bovine tuberculosis. Professor Koch denied the accuracy of that statement, but even assuming it for argument's sake to be correct, the best course would still be to devote one's main efforts to combating consumption, as consumptive patients are even more numerous. A further reason is that the latter are dangerous to others, while tuberculous children are not. Professor Koch would be very glad to see simultaneous efforts made for the repression and cure of bovine as well as human tuberculosis, and thinks it possible that a rich country like England may be capable of carrying on that double campaign. He does not consider it advisable, however, that the efforts of a country like Germany should be diverted from the task of repressing consumption by any attempts on a large scale to avert the far smaller danger from bovine tuberculosis.

As to the discrepancy between the figures given by Professor Koch, who stated that eleven-twelfths of the cases of human tuberculosis mortality are due to pulmonary disease, and the 70 per cent. shown by the official statistics for England and Wales, his Excellency explains that his figures were drawn from Prussian statistics, in which he has confidence. Professor Koch called my attention to a passage in Dr. Arthur Newsholme's work, "The Prevention of Tuberculosis," which pointed to a source of error in the English statistics, which he said did not exist in the Prussian statistics. The difference, however, is in his opinion one of slight importance in discussing the great practical question at issue.

As regards the statement attributed to him that the British Royal Commission had "failed in several re-

spects" to fulfil the conditions of experimentation he had laid down for himself, and not at all as a sort of scientific Pope establishing the law for others, Professor Koch declared that he had no desire to cast an aspersion upon British methods. The word he had used was *Abweichungen*, or departures from the rules he considered necessary. That word was free from the disparaging sense of the translation "failed in several respects.

Dr. G. S. Woodhead, in a lecture reported in *The New York Herald* of October 9, 1908, declared that Prof. Koch had never really denied the possibility of the transmission of animal tuberculosis to human beings. "We agree as to facts," he said, "but differ as to their interpretation. He thinks that we make too much of this transmissibility; we think that he makes too little" Dr. Woodhead added that in England anything that came from the laboratory of Dr. Koch was carefully and judiciously weighed, and that the Berlin scientist would be more likely to be right than any one man who was investigating the subject of tuberculosis.

Swine Fever Outbreak: Board of Agriculture's Inactivity.

The methods of the Board of Agriculture in relation to the prevention of fever outbreaks in animals were criticised in strong language at a meeting of the local authority for the County of Haddington last month. An extensive outbreak of swine fever was reported to have recently occurred at Direlton, and the local authority were called upon to pay several pounds for disinfectants. The County Veterinary Inspector said that expense had been incurred at the direction of the Board of Agriculture. The owner of the pigs wrote that he had sacrificed every animal to prevent the spread of the disease.

Mr. T. Elder, farmer, Stevenson's Mains. said he certainly thought there was some reason to blame the Board of Agriculture in this case. This unfortunate man had gone up to Bedfordshire, and bought 160 pigs. They were brought down to Dirleton, and housed in buildings, the newest of their kind, for breeding purposes. After the Board of Agriculture had been in existence for such a time, he considered it surprising that an outbreak such as this was possible. He thought the local authority should write expressing their disappointment with the way in which the disease waa still spreading. This was a very serious case, indeed ; 105 of the pigs were left to die, while the others were destroyed.

The Clerk explained that if the Board of Agriculture had ordered the owner to kill the pigs, they would have to pay for them themselves, but they had taken care not to do so.

Mr. Elder said the man had killed them himself. There must be something sadly wrong yet in the treatment of swine fever, when pigs were allowed to come from Bedfordshire to East Lothian in an infected condition.

Provost M'Intyre, North Borwick, expressed concurrence with Mr. Elder's views. The Board of Agriculture, he considered, had all along taken a very high-handed position indeed. "Everybody would imagine," Provost M'Intyre commented, "that they were the Imperial Parliament." In the circumstances, he thought there must be very serious mismanagement.

Mr. Elder . There can be no doubt that the swine fever came from Bedfordshire.

A Committee was appointed to prepare a resolution on the above lines to be sent to the Board of Agriculture.—*Dundee Advertiser.*

Personal.

Mr. W. W. M'QUHAT, M.R.C.V.S., Biggar, has been appointed inspector under the Local Authority for the South Eastern district of the Upper Ward of Lanarkshire. Mr. M'Quhat's many friends will be very pleased to hear of this appointment.– *N.B.A.*

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,
WAR OFFICE, WHITEHALL, Jan. 1.

TERRITORIAL FORCE. UNATTACHED LIST.

Vet.-Lieut. A. Spreull from the Fifeshire and Forfarshire Imperial Yeomanry to be Vet.-Lieut. with precedence as in the Imperial Yeomanry.

Vet.-Lieut. H. W. Southall from the 1st East Riding of Yorkshire R.G.A. (vols.) to be Vet.-Lieut. with precedence as in the Volunteer Force.

Vet.-Lieut. H. E. Richardson from the 2nd East Riding of Yorkshire R.G.A. (vols.) to be Vet.-Lieut., with precedence as in the Volunteer Force.

H. S. Elphick to be Vet.-Lieut. Dated Sept. 16, 1908.
Jan. 5.

Robert Fraser Watson to Vet.-Lieut. Dated May 22, 1908.

OBITUARY.

JOHN RUSSELL WARDROP, M.R.C.V.S., Dept. of Agric., Ireland. Graduated, Edin : May, 1897.

Mr. J. R. Wardrop died on Friday, the 1st inst., from phthisis. He was born in Dublin, and was the second son of Mr. Thomas Wardrop, of Streatham Hill, London, late of Ailesbury Road, Dublin. He studied at the Royal (Dick) College, where he won honours during his curriculum. He commenced practice in the Queens Co., but on the breaking out of the late Boer war joined the Forces as a Civil Veterinary Surgeon, and went through that campaign for a period extending over nearly two and half years. On returning he was appointed Veterinary Inspector under the Department of Agriculture and Technical Instruction for Ireland (veterinary branch) and was in that service up to the time of his death. He was well known and extremely popular, and was 35 years of age and unmarried.

ALFRED GEORGE LEANEY, M.R.C.V.S.
Lond : Dec., 1873.

Mr. Leaney died at the Royal Hospital for Incurables, Dublin, on 31st December, after a long and painful illness, aged 55 years.

His widow desires to acknowledge the gratitude they both felt towards the many kind friends who so generously helped them in their great trouble, in November, 1904.

COMMUNICATIONS AND PAPERS RECEIVED.—Messrs. J. Thomson, T. N. Wardrop, C. Leaney, J. A. Todd, E. Wallis Hoare.

Hull News, Evening Express (Aberdeen).

Original articles and reports should be written on one side only of the paper and authenticated by the names and addresses of the writers, not necessarily for publication.

Communications for the Editors to be addressed 20 Fulham Road, S.W.